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THE

MINERAL RESOURCES

—OF—

BRITISH COLUMBIA.

Practical Hints for Capitalists and Intending Settlers

—WITH—

Appendix containing the Mineral Laws of the Province and the Dominion of Canada,

By D. OPPENHEIMER, Mayor.

VANCOUVER, B. C.:

NEWS-ADVERTISER MANUFACTURING STATIONERS, PRINTERS AND BOOKBINDERS,
CAMBIE STREET.

1889.

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PREFACE.

In presenting the contents of the following pages to the Public, I express the hope that my carefully collected and unbiassed annotations will meet with a favorable reception on the part of all who are interested in Mining matters in general, and in the development of BRITISH COLUMBIA'S vast Mineral wealth in particular, and I shall feel amply rewarded for my labor if the result be an increased public interest in the Mining operations of a Province so rich in Mineral resources as this is.

D. OPPENHEIMER, MAYOR.

City Hall, Vancouver, B. C., December, 1888.

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Mineral Resources of British Columbia.

It is the universal accepted belief that British Columbia will one day rank amongst the richest Mineral Districts of the World, her large deposits of the precious and useful Metals and Minerals embracing Gold, Silver, Copper, Iron, Coal, Lead, Cinnabar, Platinum, Antimony, Bismuth, Plumbago, Limestone, Marble, Slate and Salt, some of which have been systematically and profitably mined for years, while others are still awaiting the development of which they are capable.

GOLD MINING.

Began on the Fraser River about 1856; the first so-called "rush" to this Province taking place in 1858, while the extensive and lucrative gold-field of Cariboo, about 150 miles north of the present Canadian Pacific Railway, was not discovered until 1860. Some idea of the enormous returns in the best days of this District may be formed when I state that, amongst other highly productive claims, the Aurora Co. yielded 500 ozs. daily; the Wake up Jack Co. 175 ozs. daily; the Cameron Co. 150–400 ozs. daily, and the Rabey Co. from 300–400 ozs daily; the actual output of these claims of the famed Gold Mining region from 1861–1882 amounting to $10,000,000.

The Omineca Mines, further north than Cariboo, have likewise added to the the Gold product, but the amount of travel necessary to reach the locality and the consequent high prices of supplies have kept back their development, while rich diggings were discovered in the Cassiar region at the extreme northwest of the Province about 1877, which, being more easily accessible than Omineca, have been worked with good results.

In the southern end of the Mainland are the Similkameen and Kootenay centres, where some exceedingly rich Quartz ledges have been located, but Gold is traced almost everywhere in the country from the Rocky Mountains to the west coast of Vancouver Island and the Olympian Ranges to Alaska, so that it is a common saying that the color of Gold is found on any of the native streams; and considering that only a comparatively small portion of the 350,000 square miles which are subservient to the Vancouver Smelter has been explored, it is quite impossible to estimate what store of precious Metals may be lying ready for development.

So far the official returns show that since the Gold discovery, some 28 years ago, close upon $52,000,000 of Gold have been taken out of the Province in alluvial mining alone, but the real amount is estimated to be very much greater, as large quantities have been carried away by Chinese and others, which are not reported.

SILVER MINING.

The argentiferous ores which have been discovered of late, and croppings of which have been assayed with satisfactory results, prove beyond doubt, that when proper depth is attained, Gold and Silver Quartz Mining will promptly come to the front; it is well known too that the great Silver belt, which runs northwest through Mexico, into Colorado, Wyoming, Nevada and Idaho, extends right through our Province. Argentiferous ores, yielding high assays, have been found in the Eureka Mine, near Hope, Nicola Valley, Cherry Creek, Queen Mine, Star and Ebenezer, near Yale, and at Illecillewaet, and reports have been received to the effect that rich deposits have been found at Omineca, Kootenay, Upper Columbia, Similkameen and at Burrard Inlet. These prospects give every promise of development into rich Silver Mines in the near future.

The possibilities of the Mining Industry are illustrated, as I have pointed out in a recent pamphlet, by the figures of the last year's production in some of the States of the Union. In California the production of Gold for that period was

$19,000,000; in Nevada, $11,000,000; in Colorado, $22,500,000; Utah, $5,750,000; in Montana, $16,000,000; Idaho, $7,250,000; Dakota, $3,250,000; Oregon, Washington Territory, New Mexico, Arizona and Alaska, $9,815,000, making a grand total of $94,565,000. It will thus be seen that in the whole Mountain range from the South in Arizona to the Canadian boarder, and to the north of us again in Alaska, there has been a yield of the precious Metals of nearly one hundred million dollars during the year 1887. Is it not reasonable to conclude that along the 700 miles of mountain range through this Province equally good results would be obtained from a thorough exploration of our Minerals?

IRON

Ore exists in large quantities in various parts of British Columbia; at Sooke, on Vancouver Island, at the northwest coast in Queen Charlotte's Sound on Rivers Inlet, and at Seaforth Channel, Millbank Sound, but the bed most available for working is situated at Texada Island in the Gulf of Georgia, about 60 miles by water from Vancouver, where a perfect mountain of this important metal is located, with great masses of rich magnetic Iron ore, within limestone walls, assaying 68 4-10 of iron, and having a low percentage of Phosphorus and other impurities.

COPPER

Has been found in a number of places, viz: at Yale, (King George Copper Mine); at Copper Creek and other creeks near Kamloops Lake; on Texada Island; the most promising ledge, however, being one on Howe Sound near Vancouver; but it also appears as a base in quartz containing the precious metals.

COAL

Mining is an industry which, of late years, has undergone a wonderful development. Coal has been found in places over a wide area of both the mainland and islands. At Nanaimo, on Vancouver Island, and in its immediate vicinity, is found the best quality of bituminous coal on the coast, the industry having reached great proportions in the five mines of the Vancouver Coal Mining and Land Co. The Wellington Collieries are a few miles from Nanaimo on Departure Bay, and about a mile distant are the East and South Wellington Mines. At Comox, further north, the coal-beds cover an area which is estimated at 300 square miles.

The quality of the coal varies in the different localities from the common Lignite to Anthracite, the latter being on the Queen Charlotte Islands, and the only vein of anthracite yet discovered on the Pacific Coast, while there is a vast deposit of semi-anthracite in the Crow's Nest Co.'s Mines in the Rocky Mountains, Kootenay. Large fields of lignite exist near New Westminster, in the Nicola Valley and along the North Thompson and Skeena Rivers, and very fine bituminous coal has been discovered near Kamloops as well as within the city limits of Vancouver on Burrard Inlet.

The Fraser and Columbia Rivers are the two principal natural highways to the Mineral country. The Government has been very energetic in making roads and trails wherever the prospects of a district warranted it, and both the Dominion and local Parliaments will at their next session subsidize branch lines from the main line of railway communication, the C. P. R., into the Mining centres. It is evident that the great transcontinental company will play an important part in opening up the resources of British Columbia, rendering the methods of transportation easier, reducing the cost of merchandise transportation, and fostering the mining industries at large, and thus the most serious drawback to a successful prosecution of Quartz Mining has been overcome.

Another important feature in connection with the development of Mines in this Province is the recent establishment of a Smelter in the City of Vancouver, with a capacity of 60 tons per day, which will commence operations before the close of the year, and the wealthy English Syndicate who are erecting this accommodation will also work some of the up-country mines as well as purchase and receive ores for treatment.

If the copper deposits already discovered develop, the Smelting Co. will erect a copper smelting furnace; it is also the intention of the company to add a refinery in the summer, and later on works for the manufacture of pig lead.

These Smelting Works are bound to centralize the mining industries of the Province at Vancouver, for it stands to reason, that with the exceedingly low rates of freight, specially conceded by the C. P. R. for transportation of mineral ore to the Terminal City, where iron ore and limestone for fluxes, and coal for coke, can be obtained at reasonable prices, the mine owners will find it more profitable to send their products to this city than to advocate the erection of smelters in the Interior. Moreover, by concentration the ores will be reduced from ten to one, which renders the actual freight ($6 per ton) comparatively trifling at 60 cents.

In connection with the Smelter an Assay Department, on the most approved methods, has been established, and Dr. W. Bredemeyer, F. R. G. S., the celebrated Mineral Assayer and Mining Expert, has opened his assay offices, sample mill and test apparatus, so that with these two technical institutions combined, which will henceforth prevent mineral ores from being sent out of the country for assaying and smelting purposes, Vancouver can safely be said to stand second to none in this important matter on this coast.

The local Government is taking further steps to encourage Mining operations, and it has been proposed by the Select Committee on Mines, of the Provincial Legislature, that a first class Mining Engineer for the Province be appointed. It has been suggested that if such an appointment be made, the engineer selected should be one who would have the confidence of British capitalists, as it is expected that capital for the development of the mineral resources of the Province will come largely from Great Britain.

The Mining Laws, both of the Province of British Columbia and the Dominion of Canada, are very liberal and yet very simple, but they are strictly enforced. N. B.—The Appendixes contain a synopsis of the Provincial and Dominion Mineral Laws and Amendments.

The Mining History of British Columbia closely resembles that of Australia and California; here, as well as there, the richer placer mines, so far discovered, will eventually become more or less exhausted, but with their decline will arrive the period when the miner goes to work on the quartz lodes, and with Quartz Mining will set in stability and prosperity in the most alluring of all enterprises.

It requires the introduction of capital and of skilled prospectors to lay open the stores of hidden wealth and pave the road to great results; for up to the present the mining operations of the country have been almost entirely carried on by diggers—men of small financial means, and frequently of still less scientific knowledge, who have a most peculiar and deplorable manner of surrounding themselves and their affairs with an air of secrecy and mystery, and who show a want of confidence which is apt to discourage would-be investors, or at least raise suspicions on their part in return.

It is a weekly occurrence to see miners come into this city from up-country points with specimens from some newly located metalliferous quartz claim, hunting for pecunious partners or purchasers, but for lack of ready capital on the spot, and for the reasons just alluded to, many genuine and favorable chances have to go a-begging. These men should be able to find people ready to receive them with open arms at a mining centre like Vancouver, as they are willing either to sell their claims or a controlling interest in the same at a small sum, or bond their location. Capitalists who are willing to negotiate with them need not risk any money until they have sent their confidential experts to the alleged claim and, after receiving a report, they are free either to accept or reject the offer according to their investigator's advice, and perhaps secure for a few thousand dollars mining property which, under the now prevailing circumstances, might not be in the market below a quarter of a million.

Here now is the chance for FOREIGN CAPITAL to step in and by the formation of PROSPECTING AND LOCATING COMPANIES in the Mining centre of Vancouver to reap a bountiful harvest in return for their enterprise.

THE MINERAL DISTRICTS

—OF THE—

PROVINCE OF BRITISH COLUMBIA.

For the convenience of mineral statistical purposes the Mainland of British Columbia is divided into six districts, viz:

Cariboo,
Kootenay,
Yale,
Lillooet,
Cassiar and
Omineca,

to which arrangement I will adhere in the following descriptive pages of the different mines; but it appears probable that, in consequence of recent locations of valuable Quartz Mines in the vicinity of Burrard Inlet, an additional district will have to be created with its official centre at Vancouver. Each District is again split up into Divisions, some of which are under the control of Government Gold Commissioners, whose duties consist in recording claims, settling disputed titles, and generally acting as local magistrates.

THE CARIBOO DISTRICT.

Embraces the whole region of the Upper Fraser to Omineca, above Lake-la-Hache, and is the great placer mining portion of the Province. The chief town is Barkerville, on Williams Creek, while Richfield, Stanley, Quesnelle, Antler Creek, Lowhee, Jack of Clubs, Lightning Creek, Cottonwood, and others are mining camps.

A good wagon road, on w uc a team of 8 yoke of oxen can safely draw 18,000 to 20,000 lbs., traverses the farming region and runs right through to Barkerville.

The projected railway from these mines taps the C. P. R. at the North Thompson, and it will open a new and rich goldfield.

Gold Statistics for 1887.	Value of Gold per ounce.	Estimated value of yield for the year.	Total Districts.	Total Divisions.
Barkerville Division:				
Williams Creek and tributaries	$16 00	$22,900		
Mosquito Creek and Red Gulch	17 25	9,000		
Hardscrabble and Sugar Creeks	16 60	1,500		
Lowhee Creek	17 00	4,425		
Grouse and Canadian Creeks	16 00	4,000		
Antler Creek	16 00	12,000		
Cunningham Creek (Upper)	16 50	6,500		
Conklin and Stouts Gulches	16 & 17	9,300		
Stevens, Begs, and California Gulches and Creeks	16 00	2,500		
Goat River	16 50	248		
Desultory	.....	7,000		
			$79.373	
Lightning Creek Division:				
Lightning Creek	17 00	5,000		
Van Winkle, Chisholm Creek, and Perkins Gulch	17 00	1,500		
Devil's Canyon and Slough Creeks	17 25	7,500		
Nelson Creek	.....	3,500		
Burns Creek	17 30	800		
Last Chance and Davis Creeks	17 00	1,500		
Rushon and Deadwood Creeks	17&17 25	1,900		
Basford, Campbell, and Peters Creeks	17 00	2,500		
West end of Swift River	16 25	1,500		
Desultory	.....	5,000		
			30,700	
Quesnellemouth Division:				
Fraser River (commencing 6 miles below Quesnelle and 20 miles above)	16 50	38,500		
Quesnelle River (20 miles up)	.....	4,900		
Cottonwood River	.....	4,200		
Hixon Creek	.....	3,400		
			51,000	
Keithley Creek Division:				
Keithley Creek	17 40	10,000		
Do. Desultory	.....	1,000		
Snowshoe Creek	17 00	6,000		
Do. Desultory	.....	500		
French and Snowshoe Creeks	16 50	1,500		
Harvey Creek	17 40	6,000		
North Fork Quesnelle River	16 50	4,000		
Do. Do. Desultory	"	1,000		
South Fork Quesnelle River	"	7,000		
Do. Do. Desultory	"	3,000		
Cedar Creek	"	2,400		
Quesnelle River (from Forks 40 miles down, no organized companies, all desultory mining)	"	5,000		
Horsefly River	"	3,000		
Fraser River (6 miles below Quesnelle down to Riskie Creek)	.....	15,000		
Fraser River—Desultory	.....	1,200		
			66,600	
				$227,673

The following are some of the most prominent mines:—

THE BRITISH COLUMBIA MILLING AND MINING CO.

has during the season employed a large force on its claims, of which the most important are:—

The American,
Wilkinson, and
The Bonanza.

(A) The American claim is situated on Stout's Gulch, which empties into Williams Creek at Barkerville.

Depth of the Shaft, 100 feet.
Country—rock, slate.
Width of Ledge, 24 feet.
The Ledge runs North, 20 degrees West, dipping to East.
Assays from $40 to $62, gold, per ton.

A 20 stamp mill and saw mill are on the premises and will commence full operations in the Spring.

The main wagon road runs in close proximity to the Mine; plenty of wood and water is handy for all purposes.

(B) The Bonanza claim is situated at Stout's Gulch.

Depth of Shaft, 120 feet.
Width of Shaft, 20 feet.
Ledge runs North, 20 degrees West and dips East.
Country—rock, slate.
Assays show traces of silver, and yield from $40 to $60 gold per ton.

(C) The Wilkinson claim is situated at the head of Conklin's Gulch, emptying into Williams Creek, and is a fine developed Mine.

Depth of Shaft, 40 feet.
Width of Shaft, $6 \times 2\frac{1}{2}$ feet.
Country—rock, slate.
Ledge runs North, 20 degrees West and dips East.
Assays show $40 to $80 gold per ton.

THE ISLAND MOUNTAIN CO.

This Mine is situated on Jack of Clubs and Mosquito Creek Mountain, and the company has removed its 10-stamp mill from the old site at the Kurtz & Lane works to Jack of Clubs Lake, where it has been crushing.

Depth of Shaft, 30 feet.
Width of Shaft, 8×4 feet.
Ledge runs North and South, and dips West.
Country—rock, slate.
Assays show $24 to $130 gold per ton.
Latest mill test gave $52 per ton.

Reports from the Mine quite recently state that the ore improves as the sinking gains in depth.

Satisfactory financial arrangements have been completed to enable the company to work the mine profitably the coming Spring.

THE QUESNELLE QUARTZ MINING CO.

Is situated on Hixon Creek, and has an extraordinary yield of free gold, a true fissure vein in granite and slate.

Depth of Shaft, 200 feet, and various cross drives have been run.
Width of Shaft, $2\frac{1}{2} \times 6$ feet.
Ledge runs North and South and dips West.

A cross drive at 50 feet level struck the ledge at 20 feet, while a cross-drive from a 100 foot level did not strike wall-rock at 45 feet.

The company has a 5-stamp mill on the ground.

The body of ore is estimated at 600,000 tons.

Assays show traces of silver, and from $20 to $2,000 gold per ton.

THE BURNS MOUNTAIN CO.

Has done some work in improving its mine.

The depth of its shafts is 50 feet; a tunnel of 600 feet struck the vein at 100 feet.

Width of Ledge varies from 10 inches to 2 feet.

Ledge runs East and West and dips to the North.

Country—rock, slate.

The quartz mills from $30 to $60 gold per ton.

The vein of the so-called Perkins Ledge, on Burns Mountain, is reported eighteen inches thick and 30 feet deep, and to show rich free gold.

Results of assays so far unknown.

THE LOWHEE MINE,

Of Messrs. Pinkerton & Flynn Brothers, on Lowhee Creek, who have erected an arastra to thoroughly test their ore, has been crushing this season.

There are many ledges of free gold bearing quartz on this creek.

THE BLACK JACK MINE,

Just above Barkerville, with a 5-stamp mill on their grounds, have done better than last year, and have produced some splendid ore, which yields $94, gold, per ton, from a ledge 3 feet wide.

THE BOYCE CO.,

On Pomeroy Lode, south-east of Barkerville, has acquired a 4-stamp mill and is crushing.

The ore assays and mills well and good results are of a surety expected shortly.

RAND BROTHERS' MINE,

At Conklin's Gulch, bears very rich free gold, with traces of silver.

There are large bodies of ore on this gulch, but it requires a good deal of capital to develop it profitably.

The following are some valuable locations in the Cariboo District:—

Hayward Quartz Mining Co., Snowshoe Creek.
Georgia Claim, 3 miles from Barkerville, (Mother Lode.)
Snow Shoe Mountain Mine.
Graphite Co., Island Mountain.
Lord Dufferin Mine, Grouse Creek.
Geo. Byrnes Ledge, between Williams and Grouse Creeks.
Green & Taylor Co., near Richfield.
Beaver Pass Ledge.
Washburn Ledge, Hixon Creek.
Canton City Ledge.
Valley Mountain.
Truro Mine.
Cooper Ledge, Stouts Gulch, and many others.

EXTRACT FROM THE REPORT OF THE MINISTER OF MINES ON THE CARIBOO DISTRICT, 1887.

RICHFIELD, 26 November, 1887.

SIR:— .....

"QUARTZ MINING INTERESTS."

"The B. C. Milling and Mining Co. have, during the season, employed a large force under Mr. Craib as superintendent, in putting down a permanent shaft to the 100-foot level, from which depth a drive has been run along the vein a distance of 100 feet and the vein cross-cut, which is some 26 feet in width and shows some very rich rock, although much the greater portion is considered worthless to work, under any process known at present.

"It is to be regretted that this company did not continue sinking their main shaft, as the indications are that higher grade ore would soon have been reached. This company has also sunk a shaft and run a tunnel in the American location adjoining, in which the vein has not yet been reached.

"The Island Mountain Company has employed from 40 to 60 men during the season, in removing their 10-stamp mill from its former site at the old Kurtz and Lane works to Jack of Clubs Lake; putting up buildings, erecting machinery, burning brick for furnace, and taking out ore, and would, I understand, but for the non-arrival of a portion of their machinery from San Francisco, have been crushing ore this winter. As it is, work on the mill has been suspended. Some half-dozen men are, however, working in the mine taking out ore, which it is intended shall continue all winter, and be hauled to the mill for crushing as soon as the mill is ready in the spring. I understand some excellent ore is being now brought out of this mine.

"The Quesnelle Quartz Mining Co., of Hixon Creek, has employed a number of men during the season, but with what result I have been unable to learn. Work has been suspended for the season.

"The Burns Mountain Co. has done but little during the season to further prove their mine.

"About 100 quartz claims have in all been recorded during the year 1887. Many are new locations, some of which show most promising indications.

"On Lowhee Creek, Messrs. Pinkerton and the Flynn Brothers are at present putting up an arastra, to more thoroughly test their ore. They inform me that they will be prepared to crush early in the new year, and will work any ore brought to them (that is to say, a few tons) for one-half of the bullion produced.

"The Black Jack Claim, just above Barkerville, has developed a very rich body of ore, and is now taking out rock, from which (upon being pounded in a mortar) a good prospect of free gold is readily obtained. This company (should their present prospects hold good at a greater depth) will put up a small mill and at once commence crushing.

"The Boyce Co., on the Pomeroy lode, south-east of Barkerville, being so well-satisfied with the results obtained, have entered into an arrangement with Mr. I. B. Nason to remove the 4-stamp mill from Richfield to their mine and start crushing ore at once. The mill is now being removed.

"There are many other promising locations worthy of mention, but enough has been said to show that the people here have a confidence in our quartz veins, and that an earnest effort is being made to prove that this confidence is not misplaced.

"I have, &c.,

(Signed) "JNO. BOWRON,

"*Gold Commissioner.*

"*To the Honorable*

"*The Minister of Mines.*"

THE KOOTENAY DISTRICT

Is in the Southern part of the Province, and embraces the country watered by the river of that name and the upper waters of the Columbia River. It comprises an area of about 7,000 square miles. Four years ago the district was divided into East and West Kootenay—these subdivisions being now entirely separate mining districts. The dividing line is a watershed line along the Selkirks, which throws the Kootenay Lake country into West Kootenay District.

WEST KOOTENAY DISTRICT

Is essentially a mining, not an agricultural or pastoral section, but its timber resources, also, are great, and are on the eve of development. So far as known the principal minerals are gold, silver, copper, lead and iron. There are excellent building stones and fine clays. The gold and silver—the latter chiefly in galena, but also in grey copper—are widely distributed. The Columbia runs north and south through the district, and is crossed east and west by the Canadian Pacific Railway. The navigable waterways for steamboats in the district exceed 500 miles in length. The climate is superb and the mountain, river and lake scenery very varied and attractive. It is stated by the Gold Commsssioner of West Kootenay that the shipments of silver ore from his district already far exceed those of any other district, or, indeed, from all the other districts in the Province put together, and that this distinction will, in his opinion, be maintained. It is encouraging to know, at this early stage of our quartz mining progress, that about 600 tons of silver ore have been profitably marketed from one district into which capital has scarcely been introduced, and that twenty-ton parcels of that total have netted over 300 ounces to the ton, a considerable proportion from 100 to 140 ounces, while none has brought less than 60 ounces, net, per ton, at a distant smelter. This is the result of mere "prospecting" work, for "real mining" has not yet begun, many of the most valuable prospects being still in the hands of prospectors. Next summer will see the beginning of methodised skilled operations, and a needed improvement of means of transport, chiefly on the great waterways. It will not be long before the district will produce several hundred tons of silver ore per day, and a good yield also of gold. A large amount of capital is battling with the deep placer diggings in the northern part of the district, and in the southern part, near the town of Nelson, two gold mills to test gold quartz claims, owned by men of means, will be erected in spring. This good promise of development is visible now, but not a tithe of the district has been half prospected. It is quite in its infancy as a mining region.

The ores in the district cannot yet be particularly described, but they are of varied character and value. There are, in established camps, and known to exist elsewhere in the district, very great quantities of low grade silver bearing galena —much of it carrying its own fluxes—which can be treated in an ordinary smelter. At least two of the four established silver claims in the district are high grade camps, and it might be an error to class the third as a low grade camp. Of the two distinctively high grade camps one gives promise of being a first-rate "carbonate" camp, second to none anywhere; the other contains claims which all experts who have examined them rate very highly, and which have proved their value by the great average net return from actual shipments above mentioned. The ores last referred to have a considerable percentage of copper, and probably cannot be treated successfully in an ordinary smelter.

The longitudinal formation, or extended metalliferous belt, in the long and comparatively narrow West Kootenay District, is, for practical administrative pur-

poses, subdivided into three sections—the Big Bend, the Illecillewaet and the Kootenay Lake subdivisions.

THE NORTH, OR "BIG BEND" SUBDIVISION OF WEST KOOTENAY DISTRICT.

This subdivision derives its name from the sharp bend, southerly, made by the Columbia River, when, in its N. N. W. course, the river reaches 52° N. It was one of the many places in the Province that attracted miners a score of years ago for a short time. In 1865–6 the "Big Bend excitement" took place. Miners from all parts flocked in considerable numbers to the new locality; steamers were built and roads, at a great expense, opened to encourage traffic, but before twelve months had expired Big Bend was deserted, and new discoveries in Omineca and elsewhere claimed the attention of the wandering miner. Gold, of fine quality, was, at that time, found in paying quantities at Big Bend, and the surface diggings in many of the streams were thoroughly and successfully worked. The place, however, was then remote, and the cost of introducing supplies high. After a long interval the completion of the C. P. Railway gave Big Bend another start. The Government made a trail in 1885 of about 60 miles in length, for the accommodation of the miners. A good deal of gold has since then been taken from Carnes Creek, French Creek, McCulloch Creek and Smith's Creek and also from bars in the Columbia River, notwithstanding the high price of supplies, owing to the cost of packing on the trail and the absence of steamboat communication by river. The effect of the summer rise of water on surface mining in the narrow creeks has retarded progress and caused attention to be turned to deep diggings. Several leases of ground have been granted to encourage the introduction of capital which, in some cases, has been secured. A bed rock flume company on McCulloch Creek has been formed, and has taken a quantity of gold from bedrock. Fair wages have been made on Smith's Creek, and more extensive work is proposed in that quarter next spring. A miner took out $500 in six weeks during the past season, but had to stop work for want of water. A company on French Creek, working a hill claim, did very well until they lost the pay streak towards the end of the season. This, however, has not discouraged the holders of the claim. The high water on Carnes Creek interfered with the previous successful work of miners there. It is generally considered that gold placer diggings in this Big Bend subdivision are more plentiful and more generally distributed than in any other part of West Kootenay District, but these are not its only source of wealth. The timber is very good, and large areas have been purchased lately. Much of the subdivision is unprospected. Numerous quartz veins, generally small, from some of which very rich "specimens" have been taken, exist in the neighborhood of McCulloch and French Creeks, and these await examination and thorough testing. Indications show that, in all probability, the Illecillewaet belt (or rather the extended belt already mentioned) traverses the Big Bend subdivision northwesterly, but this subdivision, so far as known, is believed to be more a gold than a silver yielding section.

The principal mining centres and camps are Golden, Farwell, Perry Creek, Wild Horse Creek, Palmer's Bar, Moyca River, Illecillewaet, Eagle Creek, Toad Mountain near the townsite of Nelson, &c.

A company has been organized to open this region by a short railroad and a steamer line on the Columbia River and Kootenay Lake. The C. P. R. runs through the Illecillewaet Division, within the closest proximity to its rich quartz mines.

GOLD STATISTICS FOR 1887.

KOOTENAY.	Value of Gold per ounce.	Estimated value of yield for the year.	Total Divisions.	Total District.
Northern Division:				
Fernie Creek	$18 00	$ 50		
Smith Creek	18 00	1,500		
McCulloch Creek	18 00	1,500		
French Creek	17 50	3,000		
Carnes Creek	18 00	2,500		
			$ 8,550	
Southern Division:				
Wild Horse Creek	18 00	26,000		
Palmer's Bar	"	600		
Moyea River	"	500		
Bull River	"	2,250		
			29,350	
				$37,900

THE SELKIRK MINING AND SMELTING CO.'S

Lanarck Mine is situated in the Selkirk Mountains, about 400 miles east of Vancouver near the Illecillewaet Station of the C. P. R. The company have a test mill on the grounds, and the ore sent to San Francisco and Denver, Col., has yielded, by the smelting process, 75 ounces silver per ton, and 70 per cent. lead, (1,400 lbs to the ton).

ILLECILLEWAET MINES.

The many rich auriferous and argentiferous quartz mines in this locality, most of which have only been recently discovered, are under course of development, so that it is difficult to render minute information with accuracy. The following are the most prominent ones:—

CORBIN & KENNEDY MINES.

The leads are from 2 to 10 feet thick, the ore is very rich; assays run from 65 to 1,300 oz. per ton.

John Bull	Assays:	Silver,	125	oz. per ton.
Silver Tip	"	"	244	" "
Crystal	"	"	224	" "
Whale	"	"	65	" "
The Sprague	"	"	300 to 1,500	oz. per ton.
Dunvegan	"	"	85 to 135	" "
Pride of Illecillewaet	"	"	500 to 1,500	" "
Sutton	"	"	250 to 500	" "
Shark	"	"	100 to 1,000	" "
Isabella	"	Gold	90	" "

Canadian Lass, Christina, Primrose, Silver Mug, King of the Hills, Shamrock, Emerald, Happy Find, Highland, and others of varying percentage in silver and gold.

EBENEZER MINE.

This mine is situated only three miles from the town of Golden, on Kicking Horse Creek, close to the C. P. R. track and about 800 feet above it. The mountain is about 1,500 high, facing due south.

Assays vary from —— to —— oz. silver per ton and one per cent. mercury.

HORSE SHOE MINE,

Situated on Jubilee Mountain, 40 miles from Golden, on the Columbia River, produces very rich silver ore, containing also gold. The shafts are down 22 feet in bedrock.

THE PERRY CREEK GOLD MINING CO,

Has its tunnel in 535 feet, it follows pretty much the same course as the old tunnel, being above it and in fifteen feet further. The work is in the old river channel, and going through what has evidently been a canyon. So long as they are in this canyon gold is not expected to be found in paying quantities, as the bedrock is so smooth that gold will not remain on it. The gravel taken out prospects from ten to fifteen cents to the pan, but the returns are small, for the reason that more boulders than dirt is taken out in driving the tunnel. On October 27th a wash-up was made from the dirt taken out by two men in two days, resulting in a clean-up of over an ounce. This was an improvement on former clean-ups, the gold being coarser. The work is supposed to be about four feet above the bedrock. From present indications, the channel will soon make a turn; if so, the bedrock will form a natural riffle, and immensely rich ground is sure to be struck. Official reports received from the Superintendent, Mr. G. A. Dow, speak of the unexpected encounter, six feet above bedrock of pay ground. Mr. Dow gave permission to some wandering Chinese to wash the dirt first taken out of the tunnel, as it yielded only two dollars a day to the hand, and would not have paid the company to work it. But the dirt recently taken out gives 12 cents to the pan, a yield sufficient to pay the whole working expenses of the mine. Moreover, the richness of the overlying ground indicates an abundance of coarse nuggets on the bedrock. The time for reaching the latter simply depends upon the grade of the ancient channel.

The prospects of the company are as favorable as possible, for it was not expected to find gold until bedrock was reached, yet it is now discovered that the whole ground is auriferous, and, as the tunnel is driven into Mount Cenis, the gold increases in quantity and coarseness.

TOBY CREEK MINE,

On the Columbia River, 100 miles up from Donald, was discovered last July and promises to turn out well. The ledge is a well defined one with slate and granite walls. It is 24 feet from wall to wall, carrying mineral the entire length. The pay streak is fully six feet wide, of almost solid mineral. The ore is cube galena, carrying silver and a little gold. An assay made at Ottawa gave a return of $66 in silver to the ton, and one made by the Utah expert, McVicker, of Salt Lake City, gave $72 in silver, and $1 in gold, to the ton, besides yielding 78 per cent. in lead.

UPPER ARROW LAKE MINES.

In September last a new find was made about 40 miles below Revelstoke. The ledge is over 15 feet in width, and carries gold and silver in galena.

Assay returns give $38 to $80 in silver, $2 to $3 in gold to the ton, and 40 per cent. lead.

The camp is easily accessible, as the claim stakes are within a few feet of navigable water on the north-east arm of the lake. The owners are doing development work and believe they have a property that will prove a good one shortly.

SPALLUMACHEEN RIVER MINES.

Assays, made by Dr. G. J. W. Bredemeyer a few days ago, of specimens from the "Monitor" and the "Southern Cross," at the headwaters of the river, result as follows:—

Monitor.—From 44 to 77 per cent. lead; 32 to 59 oz. silver, with a trace of gold. The vein matter went from 6 to 25 per cent. lead; 6 to 17½ oz. of silver. The vein matter could easily be concentrated.

Southern Cross.—From 42 to 58 per cent. in lead, and averages 22 oz. in silver, and the vein matter gives 12 per cent. in lead and 20½ per cent. in silver. They contain from 60 cents to $1 in gold per ton. The ores are very good smelting ores.

THE McMURDO MINES

Near Spallumacheen River, quite recently discovered by George McCabe, are likely to rival Toad Mountain in both extent and richness.

A sample sent from the "Crescent Claim" to McVicker, of Salt Lake City, for assay, returned $226.03 in silver, and $8.44 in gold, to the ton, besides 39 per cent. lead, and 11 per cent. copper; pretty good rock to be sure.

Other locations of importance are:—

Otter Tail Gold and Silver Mining Co., Rocky Mountains.
Findlay Creek Mining Co., (Hydraulic).
Farwell Silver Mine, Illecillewaet.
Connolly Silver Ledge, Illecillewaet.
New Jerusalem Mine, Kootenay Lake.
Ruby Mine, Kootenay Lake.
Crow's Nest Co.'s Coal Mines, Rocky Mountain.
Bald Head Mining Co.
Ericson Mining Co.
Big Bend Mining Co.

KOOTENAY LAKE MINES.

On the west shore of the lake at Warm Springs are the mines of Wheeler & Brant, "Let'er go, Gallagher," the "Crayhoo," "Little Donald," and the rich quartz claims of Mr. G. B. Wright, "No. 1." In these mines is found a very rich vein of galena on the lower limestone ledges and mica schist with high deposit of silver above red carbonate ores, rich also in silver. On the opposite shore of Golden Bay is the "Blue Bell," assaying 140 oz. silver per ton.

TOAD MOUNTAIN MINES.

The district is remarkably rich, otherwise these mine could not be worked.

The principal ones are:—

Hall Brother's three claims—The Bonanza, Silver King and American Flag—the latter assaying $380 silver, and $250 gold, to the ton, besides going 28 per cent. copper.

The Dandy, owened by Cook & Kelly.

Iroquois, owned by Pat Grace & Co.

Tough Nut, Jim Crow, Phœnix, and several others, which have not been properly tested.

On Cottonwood, Smith Creek, between Hall's claims and the townsite of Nelson, is the gold mine of King & Co., and further down the stream, beyond the point of navigation, at Eagle Creek, seven miles from Nelson, is the "Eagle Creek Mine," owned by Neil & McDougall. There are very promising indications of gold quartz, a fine vein laying between black granite, low silver quartz and carbonate ore, which has been traced 300 feet on the surface; it crops up all over and widens to two feet at a depth of 25 feet. It was the intention of the company to take in a small stamp mill this fall, but owing to the condition of the trail it was impossible to get it to the spot. They have an eighteen inch vein of free milling gold ore that assays $100 to the ton, and some of the ore has panned out $400 to the ton.

EXTRACT FROM THE REPORT OF THE MINISTER OF MINES ON THE KOOTENAY DISTRICT, 1887.

NORTHERN DIVISION.

FARWELL, 24th December.

SIR:—.....

Memorandum on the silver mining field discovered lately in the Fort Shepherd Subdivision.

"The land rises from the valleys of the Columbia and Kootenay by low roughly wooded hills, backed by mountains about 5,000 feet high, which rise still higher to the eastward, over Big Kootenay Lake.

"The drainage, chiefly, is by 49 Creek and Cottonwood Creek which enter the Kootenay,—by Salmon Creek which flows southerly into the Pend d'Oreilles River, and by Bear Creek which flows into the Columbia River nearly opposite Fort Shepherd. I do not think there is any important drainage into Big Kootenay Lake. The general slope is westward.

"The Kootenay River Valley—a rough trough somewhere about 20 miles long from the outlet of the Big Kootenay Lake to the Columbia—forms, as above said, the northern boundary of the Fort Shepherd subdivision.

"Upon the southern wall of that valley, six or seven miles from the river, and situated about the headwaters of 49 Creek—a little east therefrom I think—is a mountain called 'Toad' Mountain, variously estimated as of the height of 4,000 or 5,000 feet; it is at any rate high, for the snow this year was on it till July, and snow showers fell in autumn.

"The largest group of claims, at present discovered in the Fort Shepherd subdivision, is on Toad Mountain.

DESCRIPTION OF THE NEW MINING FIELD.

"'Those mines were discovered late in autumn of 1886 by Winslow, Hall & 'Co. Nothing was done until the spring of 1887. After the discovery had become 'known, I outfitted two men who went to the mines with about ten others, and 'all made locations, working them during the summer. I myself went there in 'September last, to look at the mines and see what my men were doing. I found 'about thirty men in camp, and more coming every day—the mines the best ever 'discovered on the Pacific Coast,—ledges there running from ten to thirty feet in 'width, and all looking well.

"'"Mr. Cobaugh, who went in there with his assay office with Messrs. Hall & 'Co., made assays from the rock of the different ledges as high as 1,600 ounces in 'silver. The average assay of ore at the time I was there ran a little over $300, 'and without a doubt this will be one of the best camps in British Columbia.

"'"At the time I left this camp, the last of September, there were about thirty 'claims located, and men working on about eighteen of them. Experts were 'coming in from all parts of the country examining the mines. I am informed 'there have been about twenty-five more locations since I left.'

"I am not able to describe the nature of the silver-bearing rock; some that was sent to me did not reach as the boat was stopped by ice last week; it is said not to be galena. A miner here lately from Toad Mountain said that some thought that the rock would yield more gold than silver when sunk into. To show the size of the ledges—a matter as to which all accounts agree—he said that one was stripped over fifty feet without finding the walls. These might be masses instead of veins, but he said the general belief was that they were veins.

.....

"I have, &c.,

"G. M. SPROAT,

Gold Commissioner."

"*The Honorable*

"*The Minister of Mines.*

North Kootenay, 30 December, 1887.

Sir:—.....

"As regards quartz, it is now provided that a metalliferous formation, composed, mainly, of black or dark pyritous slates, yielding gold and silver, chiefly silver, so far as known, runs on the west slope of the Selkirks (and of course on the east of the Columbia River) longitudinally, and, as far as can be judged, continuously, in a strip of varying breadth, north and south, throughout the district, and probably, for a long distance north and south, beyond.

"This formation appears, for example, in the Fort Shepherd subdivision—on Big Kootenay Lake,—also in the section immediately east of Lower Arrow Lake, (which I will call 'Slocan' subdivision), again, upon the shore of Upper Arrow Lake, and, as you already know, at Illecillewaet, Carnes Creek and Big Bend.

"Notwithstanding the rough, deeply covered surface of the country, the continuity of the formation is traceable, or fairly infcrable, throughout the above distance—the general trend being a little west of north. Innumerable quartz veins, ramifying and crossing in all directions, are found in it.

"They are to be seen on the stony scarps of lofty mountains; they pierce and sometimes climb up and over ridges; they burrow under hill, crop out on benches, traverse valleys and variegate lake margins and beds of streams. A large part of the formation is hidden, and always will be hid, under vast mountains, but the numerous valleys enable it to be attacked in many parts of its length.

"Judging by the little that 200 men have been able to do in examining a circumscribed, small bit of this elongated strip, during the past season, on the South Fork of the Illecillewaet River, I should say there will be plenty of prospecting work to be done in this district, a hundred years hence, even with a mining population numbered by thousands, instead of hundreds.

"The smallness of devcloping work done, so far, forbids generalizing, but my impression is that the northern part, and perhaps the extreme southern part, of the district will yield more gold than silver, which latter may be found chiefly in the central part. What other valuable metals exist is not known. The presence of cinnabar is vaguely reported. Silver ores, so far, are the commonest. These consist, generally of galena and gray copper, as the main constituents. In some veins the above two ores are mixed; in others, one or other predominates, and the galena occassionally occurs in considerable purity. The cupreous ores, as a rule, have the highest silver contents. The veins often lie close together, and, as above said, they frequently cross. In such a broken country, the course of a particular vein is not easily detected. And with so much cover on the surface, examination is difficult on the lower parts of the mountain. But anybody on the mountain side may get a good general idea of the greater work of nature in the surrounding area, by observing, as he constantly may do, the ramifying and crossing, the swelling and dwindling of veins, and some of the hidden causes of mining misadventure, depicted as a picture lesson in miniature quartz tracery, on the smooth face of a yard of square split slate that may be lying near his feet.

"The question whether there are many so-called true 'fissure' veins or lodes in given parts of the great metalliferous strip, is probably not so important. The metal is where you find it, and adventurers in mining have to satisfy themselves as to the nature and presence before investing their money. The upholders of one theory as to the cause, or causes, of the presence of metal in the veins, say that fissure veins are more likely to be metalliferous. The upholders of another theory say that you are just as likely to find metal in ores that are not contained in 'fissure' veins.

"I said above that low grade ores, as a rule, required large capital to handle them. We have plenty of these ores, chiefly galena, in the district, but it is also very probable (though, indeed, only croppings have been tested) that we have also veins—generally yielding gray copper and smaller in size than those yielding galena,—which are distinguished by having a small quantity of rich ore, commonly silver-bearing, it would appear. There thus may be room for individuals, or

small companies, whose concern with the ores from the mine will be simply their extraction and sale to the highest bidder on the spot. Such sales would be made through the managers of sampling works, and the cash received would enable the mining to be continued. But this industry cannot exist without sampling mills and smelters, which are to the miner very much what grist mills are to the farmer.

.....

ILLECILLEWAET SUBDIVISION.

"No placer diggings have been found in this Subdivision, but it is thought that the North Fork of the Illecillewaet, Fish River (which enters the head of Upper Arrow Lake), and some other streams may prove to be placer streams.

"The great feature at Illecillewaet is quartz mining, which, accordingly, I have studied with some closeness. I frequently visited the camp, and on one occassion ascended the dividing ridge in company of Professor Selwyn, C. M. G., and examined the veins at the highest elevation.

"The records of mineral claims number 205; certificates of expenditure 59; transfer 77, during the past season.

"The largest owner of claims there is the Selkirk Mining and Smelting Company, Limited. They are interested in more than a score of claims. Messrs. Corbin, Kennedy & Wood have about half that number. A dozen other claims are distributed in the hands of holders, many of whom probably could find more or less capital to work them, or to open them, for a satisfactory test. A few are held by men who have been able to expend the necessary $100, and hold the claims for what may turn up. The remainder, say 146 claims out of 205 recorded, would appear to be vacant.

"The largest and almost only large transactions in mineral claims at Illecillewaet has been the sale of $\frac{2}{3}$ of one claim for $16,000. The other 76 transfers have been for amounts ranging from $3,000 and $1,000 down to the small or nominal sums which constitute the consideration in most of the cases.

"The shipments of ore, other than small lots for assay, have been made solely by the above named Company, and consist of about 250 tons of selected ores, between the 25th of July and the 7th of November, which represent a gross value of $21,000, and a net value at the smelter of about $15,000, say nearly $63 per ton as the average net yield at smelter. The range of the percentage of lead was from 36 to 159 ounces per ton.

"The ore got out, and now at the mines and on the dump, by the above-named two mining companies, may be roughly estimated as worth $15,000.

"The Selkirk Company has spent $5,000 on 8 miles of trails to its different claims, and Messrs. Corbin have spent a large sum on similar work.

"The crushing and sampling mill, capable of sampling 100 tons of ore per day, and with a very complete assay office attached, has been erected by the former company at a cost of about $8,000, and this company, further, has made considerable expenditure on ore sheds, workmen's houses, &c.

"I understand it is probable that Messrs. Corbin, who have spent the summer in tunnelling and testing some of their best-looking claims, with satisfactory results, may erect sampling works next summer, if means of access to their valuable claims on the North Fork is provided.

"Mineral claims have been recorded which are situated both north and south of the C. P. R. line, all along from Illecillewaet to Glacier Station, but most of the claims are on the north side of the line, about two miles east from Illecillewaet Station. They extend almost from the track up to the summit—4,000 feet high—of the divide between the South and North Forks of the Illecillewaet, and some of the veins run through or over the summit, and reappear or continue on the North Fork slope, and in the bed of the North Fork stream.

"The latter valley cannot be thoroughly prospected, or its mines utilized, until means of access are provided up it from Albert Canyon. The divide is steep on both sides, and snow lies long on it.

"Owing to the migratory character of the population it is difficult to estimate

the number of miners, but I think that an average of 200 prospectors at Illecillewaet would be approximately correct.

"The visits of a number of experts from the United States and England show that the locality is becoming known outside of the Province.

"The energy and enterprise of Mr. G. B. Wright have been mainly instrumental in starting the Illecillewact camp, and Messrs. Corbin, Kennedy & Wood are the pioneer prospectors of both North and South Forks.

"A small village of about 30 houses has sprung up around the railway station and sampling mill, with the usual small hotels and shops, but there has not been any active competition to secure lots at Illecillewaet. The buildings are partly on the land of the railway company, and partly on Dominion land.

"The slackness of competition for ground is not owing to any doubt of the goodness of the mines, but perhaps for some notion that Albert Canyon, at the junction of the two streams, may be a better place for a village than Illecillewaet

"The formation, locally at Illecillewaet, so far as examined, presents commonly a heavy limestone caprock, and foot-walls of slates—black and dark pyritous slates.

"Iron sulphurets, highly colored on the surface, form part of the veins and hanging walls.

"The ore itself consists usually of galena, carbonates of lead and grey copper.

"The gangue of the vein is generally a reddish quartz, which lies in regular veins varying from 4 to 12 feet in thickness, and is sometimes closely mixed with streaks of pure limestone. The carbonates run through this quartz in streaks from a size of a few inches up to two feet, and generally carry from 20 to 40 ounces of silver to the ton, and from 10 to 25 per cent. of lead. Some streaks, however, are found which assay from 100 to 300 ounces to the ton.

"Mixed with these carbonites is the pure galena ore in pieces varying from an ounce up to a ton in weight, and lying in veins from 3 to 18 inches in thickness. This ore, when free from the gangue, gives from 65 to 70 ounces of silver per ton, and 55 to 60 per cent. of lead.

"The grey copper ore lies in solid veins, from 4 to 18 inches in thickness—sometimes mixed with galena—and assays from 200 to 800 ounces silver per ton, and from 6 to 30 per cent. of copper. Some of the decayed copper ore of a greenish hue has run as high as 1,000 to 1,900 ounces, and one specimen gave 2,825 ounces to the ton.

"If one might generalize from very limited data, the claims on the southern side of the mountain divide appear to be richer in lead and carbonites, while those on the northern side show more grey copper. Ore from several of the latter, packed over the ridge on the backs of men, with copper, galena and gangue mixed, gave returns of about 250 ounces to the ton.

"The specimens sent to your address, in a small box, will show the different kinds of ores above-mentioned.

"The Isabella, Carnmony, Shamrock, Lanark, Maple Leaf, &c., are on the south side of the divide—the Lanark being the mine now most worked. The Shark, Whale, and other claims called by the names of fishes, are on the north slope of the divide.

"The claims being on the slopes of a lofty divide between the South and North Forks, it is obvious that a railway or road up both valleys is essential. The C. P. R. furnishes the south valley with this. The North Fork valley, where many think the richest claims are, is in a state of nature.

"The next consideration will be to have the best means of getting the ore down the slopes to the railway or road. This has been done on the South Fork by the trails already mentioned. On these pack mules have carried, each, 320 to 400 lbs. of ore from mines at a height of 3,500 feet to the railway, but this must be considered a temporary arrangement. Wire tramways probably must be used. Such a tramway, 1½ mile long, and at an angle of 20 to 30 degrees, would transport from 60 to 100 tons in 24 hours. It would cost about 12,000. No machinery would be required, as the weight of the loaded buckets would run it. Until some such cheap means of transport to the railway is provided, so that all the ore can

be shipped as it comes from the mine, a heavy expense is incurred at the mine in assorting the better from the poorer grade.

"A further and vital consideration is the provision of a smelter. In connection with this question it has to be borne in mind that nearly ¾ of the ore found thus far will not average over 30 or 35 ounces of silver to the ton, and consequently will not bear expensive transportation. It is, however, of a class which carries most of its own fluxes.

"There is not, I believe, a single smelter in any part of Canada. The present annual consumption of lead and its products in Canada is of the value of $250,000. The import duty is $12 a ton. A very large demand for lead exists in China.

"I am not able to express any opinion as to the description of smelting works required, or the best locality for them. As to the latter question, much depends upon the transportation rates of the C. P. R. Possibly the cheaper prices of coke, coal, limestone and iron ores on the coast may show an advantage in having the works there, particularly as municipal subsidies may be available, in aid of the cost of plant.

"Looking to the nature of the Illecillewaet ores, as described above, I should suppose that suitable smelting works would not be a small affair. There ought to be refining plant to separate the silver and gold from the lead, furnaces to reduce the copper and roast the sulphurets, &c.

"It is a slow, difficult and great business to make a successful quartz camp, even when a railway runs through it, but when once established, the industry is valuable and, often, permanent. Illecillewaet is in its infancy, but, upon the whole, I think that the camp may succeed and grow. It won't amount to much though if the North Fork section remains undeveloped.

BIG BEND.

"Smith's Creek (opposite Goldstream) and Fernie Creek, on west side Columbia (8 miles north of Smith's) are the two creeks of the groupe of a dozen large creeks, between Goldstream and Boat Encampment, from which pay gold has been taken this season. All these creeks show fine colors, and are well worth careful prospecting. Several of them were proved to be auriferous 20 years ago.

. . . . . .

"I have, &c.,

"G. M. SPROAT,

"*Gold Commissioner.*"

"*The Honorable*

"*The Minister of Mines.*

SOUTHERN DIVISION.

DONALD, December, 31st.

"SIR:— . . . . . .

"Quartz—auriferous and argentiferous—seems to abound throughout the district; some very rich 'grey copper ore' has also been found; but as no capital has as yet been invested towards the development of any of the ledges discovered, it is unnecessary to particularize them.

"In time, no doubt, *bona fide* experts and capitalists will come in, and then these mines will be developed and worked to advantage.

"The Otter-tail Gold and Silver Mining Co., which had commenced operations for the development of some ledges containing respectively gold, silver, copper, and galena ore, in the Rocky Mountains, were, unfortunately, burnt out last, June. Considerable property was destroyed, consisting of stamping mill, sawmill, store and dwelling house, tramways, tools, provisions, &c. The total loss is estimated at $60,000.

"Kootenay Lake has again caused considerable excitement by the discovery last fall of some very rich grey copper ore in that locality.

"These mines are situated about twenty-five miles from the lake, viz., 19

miles by water down the outlet, and thence six miles south from the outlet over a heavily timbered ridge or divide 2,700 feet above the river or outlet. The west fork of Cottonwood, Smith's Creek, heads at the mines and flows east, with Salmon River and 49-Mile Creek flowing to the west.

"The mineral belt is, as near as could be estimated, from one and a half to two miles wide, running about 20° west of north, and extending, so far as has been discovered, about five miles north and south. The ore found is very rich in silver, as will be seen by the assay returns enclosed, which show an average of $105 to the ton for first twelve assays, and $127 for twelve others. I also forward some samples of the ore, duly labelled. It is claimed that some of the rock sent out assayed from 1,000 oz. to 1,160 oz. of silver to the ton.

"Three claims upon the same lead have been taken up by the discoverers, and are known as the property of the Kootenay Bonanza Co. One of these, the Silver King, shows an immense body of ore between the walls (granite and mag. limestone) from 20 to 25 feet wide. The other two promise equally as well.

"There have been some twenty-five mineral claims taken up, and with the exception of two of them, which show galena, they all contain grey copper ore.

"About twenty-five men have built houses and intend wintering at the new mines, should they be able to get in provisions before the winter sets in. These men are mostly from Colville, and seemingly are all Americans of a very intelligent class, and anxious to conform to the laws of the country.

"There is no doubt but that there will be at least 100 men at these mines next spring, and I would reccommend that provision be made for an acting recorder and constable at that place during the summer months.

"The trail from the landing on the outlet of the mines, at present, is a very rough one, having been made in a hurry last fall by the miners. The latter are very desirous that a wagon road should be constructed over that route, so that they could get in machinery, &c. I think that a very good trail could be made at a cost of from $1,000 to $1,500. It is a steady climb all the way, and upon present trail a horse can with difficulty pack 150 pounds. There is a trail from the mines to Colville, which was made by the miners when coming in after first excitement.

"Only three men were living at the old camp on the lake, who appeared to be doing nothing except existing upon locations.

COAL,

"As discovered in the Crow's Nest Co.'s mines in the Rocky Mountains, Kootenay Mountains, is to be found in vast quantities. There are in all fifteen seams in sight, three of which are respectively 14 feet, 25 feet, and 30 feet in width; the remaining twelve are from 3 to 7 feet wide. This is the most extensive showing of coal, I think, on record, being an aggregate width of 130 feet, situated on one hill, the belt being one-quarter of a mile wide. Mr. Dawson, in his report, classifies some of this coal as semini—anthracite.

"The wagon road, with bridges, completed this year, from a point known as 'Steamboat Landing,' on the Columbia River (about 50 miles above Golden), to the old camp (south), a distance of about 140 miles, is looked upon by all interested in the country as one of the most important works ever undertaken in the district, assisting, as it must, to a degree incalculable, the future development of mineral and other resources in this part of the Province.....

"A considerable amount of prospecting is being still carried on for quartz, and fresh finds are continually recorded, but all by poor men who can do nothing towards opening up such mines. In this office some 61 mineral claims have been recorded this year, in addition to those previously taken up.

"I have, &c.,

(Signed) "A. W. Vowell,

G. C. & S. M. &c.

"*The Honorable*

"*The Minister of Mines.*"

1888.

NEW MINERAL LOCATIONS MADE—EAST KOOTENAY.

5	locations	made	—Tunnel Mountain,	near	Field,	assaying from	$25	to	$ 40	per ton silver	—assessment work placed on	1 location.
11	"	"	— " "	Kicking Horse,	"	30 "	75	"	" —	"	"	3 "
2	"	"	—Beaver Creek, 12 miles from Donald,		"	39 "	50 gold, and $10 silver, per ton—no assessment work.					
9	"	"	—Spallumacheen Mountain, Col. River,		"	15 "	25 per ton silver—assessment work placed on 4 locat'ns, (large body of ore.)					
9	"	"	— " 2nd Fork,		"	30 "	35	"	"	—assessment work	placed on	1 location.
21	"	"	— " Middle Fork (McMurdo Dist).		"	30 "	200	"	silver, gold & l'd	"	"	5 "
35	"	"	—Jubilee Mountain and vicinity,		"	35 upwards	"	"	"	"	"	7 "
4	"	"	—Toby Creek, Columbia River,		"	"	"	"	No assessment.			
3	"	"	—Windermere (near)		"	"	"	"	"			
1	"	"	—Findlay Creek,		very good indications			"	"			
1	"	"	—Golden (near)		"	$30, and good indi'ons		"	and other minerals.	No ass'ts.		1
1	"	"	—Columbia River, 40 miles f'm Golden,		"	"	"	"		"		1
102												23

1887—Mineral locations, 70; No placer mines. 1888—Increase in mineral locations, 32; placer 30 locations.

Memo.—At Tunnel Mountain, Field, 4 old locations have been sold for about $25,000; the names are: "Monarch," "Cornucopia," "Alpha" and "Mogul," sold to the British Columbia Smelting Co.; low grade ore, mostly lead. The company have this year (up to date) expended on the working of these mines about $30,000, and have commenced shipping ore to their Smelting Works at Vancouver.

Carbonate Mountain, McMurdo Country, 4 locations; the "Southern Cross," "Monitor," "Great Republic" and "Carbonate Chief," have been bonded to a Vancouver company for $36,000, and the company will commence fully to develop these locations as early in the spring as possible; supposed to be excellent mines; silver ore, with gold, lead, &c.

Donald, 28th November, 1888.

A. W. Vowell,
G. C. & S. M.

THE YALE DISTRICT

Is a large one, extending from the Fraser, below Hope, to the Columbia, and from the United States boundary to the fifty-first parallel, covering an area of 24,000 square miles.

Across its entire northern and eastern ends runs the Canadian Pacific Railway, passing through its largest towns, Yale, Hope, Kamloops, Lytton, Spence's Bridge and Savona's Ferry. Through it run the Thompson, Nicola and Okanagan Rivers, with their many tributary streams and lakes, and along either side flow the Fraser and Columbia.

On the Okanagan and the Similkameen River, a tributary of the former, placer gold mines are being worked, and many undeveloped quartz ledges have been located.

To the southeast and east of Lake Okanagan lies a rich mineral region, which, although partly prospected, is as yet little developed.

GOLD STATISTICS FOR 1887.

	Value of gold per ounce.	Estimated value of gold for the year.	Total Divisions.	Total District.
Hope, Yale and Lytton Divisions:				
Desultory mining on bars and benches of Fraser and Thompson Rivers	$15 00	$20,000	$ 20,000	
Kamloops Division:				
Scotch Creek	17 00	4,500		
Tranquille River	16 00	700	5,200	
Okanagan Division:				
Cherry Creek	14 50	5,000	5,000	
Smilkameen Division:				
Granite Creek	17 25	90,000		
Tulameen River	17 25	12,000		
Boulder Creek	17 25	2,000		
Slate Creek	17 25	14,000		
Similkameen River	16 00 to 17 25	10,000	128,000	
				$158,200

NICOLA VALLEY MINING COMPANY.

The mines of this important mining company are situated on Mineral Hill to the east of Stump Lake, and comprise a number of claims which are being rapidl developed by a syndicate and under the management of Mr. Wm. Craib.

KING WILLIAM MINE.

The shaft has a depth of 120 feet, dipping at an angle of about 30 degrees to the north, a feature peculiar to all pay shafts on the hill.

There are various cross-cuts on a vein of about 3 feet wide, and at places the body of ore widens to 8 feet between tin wallrocks.

Assays, from $35 to $250 silver per ton, and averaging about $70 silver per ton.

Work is being carried on in three other shafts of from 20 to 55 feet depth.

THE JOSHUA MINE

Has a depth of 20 feet, and is still sinking.

The development of this shaft, as indicated by levels run on the ledge to the north and south, for over 100 feet, shows a continuous body of heavy mineralized ore. At the 200 feet levels the indications are precisely the same, with a shade of advantage with respect to richer assays. At 250 feet another level will be run to make connection with a tunnel of 1,300 feet in length, now being driven from the side of the hill against Stump Lake.

Assays, from $40 to $350 silver per ton, averaging about $100 silver per ton.

TUBAL CAIN MINE

Is regarded as the most promising ledge in the district, and has been prospected on three different ledges. The shaft is now down to 130 feet.

At the 50 feet level of this shaft, running north, a rich body of ore is disclosed. It is the intention to connect this shaft with the outside world by a tunnel piercing it at the 100 feet level, of about 450 feet in length. When the shaft reaches 240 feet, a level will be run to the north to connect with a second tunnel, now advanced 130 feet, being driven from the hillside above the lake.

Width of ledge, 2 feet and over.

Assays average about $150 silver to the ton; one assay gave as much as $400 silver per ton.

GENTLE ANNIE CLIAM.

Depth of shaft, 60 feet.
Width of ledge, 3 feet.
Assays from $20 to $50 silver to the ton.

SCHOMBERG CLAIM.

Depth of shaft, 36 feet.
Width of ledge, 4 feet.
Assays, $50 to $60 silver per ton, and $10 gold per ton.

NO SURRENDER CLAIM.

Width of ledge about 1 foot.
Assays from $25 to $60 silver to the ton.

THE MAMMOTH MINE

Is situated at the head of Nicola Valley, about half-way between the wagon road and the lake.

Depth of shaft, 45 feet.
Width of ledge, 2½ feet.
Country rock, slate and porphyry.
Ledge runs north and south and dips to the east.
Both ledges can be traced for over 1,000 feet.
Assays, $44 in silver, and $8 in gold, to the ton.

THE STAR MINE,

Situated on Mineral Hill, and running parallel to the Tubal Cain, is owned by George Henderson and Wm. Patterson.

The shaft is 100 feet in depth. The mouth of shaft is 352 feet over the level of Stump Lake, a surface of water 5 miles in length and ¾ of a mile wide. The distance of shaft from the lake is 1,400 feet.

The ledge and ledge matter of porphyry is 4½ to 5 feet between the hanging and foot wall and the ore body is from 20 inches to 2 feet, and is well mineralized throughout. 150 tons of ore have been stoped out from the 70 feet level.

The machinery for concentration on the ground consists of a Blake rock breaker, a Marchultz & Cantrell roller mill, for pulverization purposes, and two Triumph concentrators. This machinery is so placed on a descending gradient surface that the ore, after passing through the rock breaker, descends to the pulverizer, and from there again descends to the concentrators. A 15 horse-power steam engine, on the same floor as the concentrators, affords power which is communicated to the different parts of the machinery by belting from a centrally placed drum near the roof of the building containing machinery. A 5 horse-power steam engine, detached from building, drives a force-pump to fill a water tank 80 feet over the lake, and thus furnishes water to pulverizer, concentrators and steam engine. The capacity of the pulverizer is equal to a 5-stamp mill, and the concentrating power of the mill equals about 1 ton of concentrates in 24 hours.

Wood for fuel is abundant and cheap, costing only about $1.75 per cord.

The ore at bottom of shaft is a higher grade than at any other point; a general average of the bottom gave $65 in silver and $36 in gold to the ton, with about 8 per cent. lead.

THE PLANET MINE,

At the foot of mineral Hill, about one-quarter of a mile from the Star Mine, is owned by the same firm.

The present depth of the shaft is 70 feet, and when sufficiently sunk, so as to admit of drifts being run, a large amount of ore can be stoped and hoisted to grass. There is no machinery on the ground, but everything to operate the mine is compact and complete with buildings, stables, and 320 acres of bunch grass land for pasturage of horses, etc.

Assays average from $35 to $150 silver per ton, gold predominating.

COMSTOCK MINE

Is located in Nicola Valley, Yale District, and proves a true fissure vein.

The ore ledge is 16 feet wide and 20 feet between walls of porphyry, the lead widens downwards.

Country rock, porphyry and granite.

Trend of lode north by west, 20 degrees.

The true length of the lode has been traced 2½ miles in a rolling bunch grass country.

Assays $38 in silver and $8 in gold to the ton.

THE HEPBURN MINES,

Located on Idaho Mountain, are developing into valuable property, and a great deal is expected from their different claims during next season, as everything is being brought into working order.

The most prominent claims are:

Robert Dunsmuir	Assaying $	65	to $	800	silver per ton.
Mary Reynolds	"	350	"	900	"
Gold Cup	"	90			"
The Giant	"	200			"
Elk Horn	"	75			"
King Hiram	"	39	"	80	"

WRIGHT & ELFTCHER MINES,

Are now being vigorously worked and their development pushed. Among their claims are:

The Minnie, on Minnie Hill.
Eureka, on Rockford Hill.
Banner, on Idaho Mountain.
Idaho, on Idaho Mountain.

OTHER PROMINENT NICOLA MINES

Are: W. McCulloch's Jenny Long, with a 60 foot tunnel, assaying $80 silver to the ton, and carrying besides a large percentage of gold; Longfellow, Dentist, Nellie Grant and Last Chance.

Turner & Wilson's claims.
W. Palmer's Azelia and others.
Morrisson's Silver Mine.

JAMIESON CREFK MINE

Is situated 17 miles north of Kamloops.
Shaft sunk 40 feet, width of ledge 20 feet.
Assays $60 silver to the ton, besides a good perccntage of gold.

MONTE CARLO MINE,

Situated on the North Thompson River about 100 miles north of Kamloops.
Assays average $50 to the ton, gold and silver.

DOMINGO MINE

Is located 28 miles south of Kamloops.
Depth of shaft 25 feet.
Ledge is 22 inches wide, of solid ore.
Assays $100 silver to the ton.

COUTLEE'S MINE

Is situated on the Canadian Pacific Railway, about 40 miles from Spence's Bridge, and promises to turn out a valuable acquisition to its owner.

A 120 foot tunnel has been run and matters are looking well. Silver and gold-bearing quartz has been dumped ready for shipment.

HIDDEN TREASURE MINING COMPANY.

The claims of this very important and promising concern are located on Cherry Creek, 90 miles southeast of Kamloops, in the Okanagan Division.

Depth of shaft 60 feet. During the sinking for the main ledge three defined rich leads were crossed.

Assays, 26 ounces of gold and $869.24 silver to the ton, but as high as $1,500 silver have beeu obtained.

STEVENSON MINE,

Discovered in 1877, is situated on the third North Fork of the Similkameen, 50 miles from Hope, Fraser River.

Width of ledge, 2 × 6 feet.
Country—rock, granite and slate.
Ledge runs north and south and dips to the east.
Assays, $ 75 50 gold per ton.
" 112 47 "
" 138 50 "

And sundry assays averaging from $4,676 to $19,797 gold to the ton; an assay made February 18th, 1886, resulted in $729 in silver, and $5,109.52 in gold to the ton.

SIMILKAMEEN MINING COMPANY.

From the mines of this company, situated on the Similkameen, the following assays were made:

Assay No. 1—Gold..... 0.02 oz.—$ 0 50 per ton.
Silver.....18.22 " — 23 56 "
Copper.....25 39-100 per cent.
Assay No. 2—Silver.....23 oz.—$29.73 per ton,
Gold.....None.
Copper.....45 3-10 per cent.

JENSEN & FELL'S MINES.

Have very rich claims, amongst which the "Bonanza," situated on the Tulameen River, assaying $113 in gold, and $42 in silver to the ton.

OTHER IMPORTANT MINES IN THE DIVISION:

Cherry Creek Mining Co., Monashee Ledge.
Mission Creek Hydraulic Co.
Pogue Co., Granite Creek.
Gladstone Co., "
Cariboo Co., Rock Creek.
Victoria Mine, "
La Fave Mine, "
Ming Mine, "
S. King Mine, "
Pondra Mine, "
Alice and Emma, "

EUREKA SILVER MINES.

These mines are located on a mountain known as the Silver Peak, near Hope, on the Fraser River, and consist of the "Eureka" and "Victoria" claims, which run parallel about 300 feet apart.

The average width of both is about 20 feet.

Trend, northeast by southwest and dips to the east.

Country rock, granite.

Assays—Victoria, from $ 75 to $400 silver to the ton.
" Eureka, " 100 " 800 " "

QUEEN MINE

Is situated about 2 miles north of the town of Yale on Yale Creek, and is within easy distance from railway communication.

In the vicinity of the mine there is an inexhaustible supply of wood to meet all exigencies, and hard by—200 feet—a never failing stream of water, capable of working a powerful mill.

The lode is in a congenial formation of Mica Schist and is well defined.

Lode at surface shows fully 50 feet wide, composed of quartz, ribbons of argentiferous ores, blende, friable quartz, flookan, and heavily charged with iron pyrites. A tunnel has been driven between 60 and 70 feet at 26 feet from surface.

Assays, silver, 80, 70, 48, 38, 36 and 24 ozs. to the ton.

Gold—traces throughout—highest, 2½ dwts. per ton.

Government Assay, $498.50 in silver, and $144.69 in gold to the ton.

TEAGUE MINE.

This promising claim is situated about 50 miles from Vancouver, on Harrison Lake, and was discovered on the 14th August, 1884.

Within a near distance from the Canadian Pacific Railway, its location is extremely favorable for the conveyance of mineral and mining materials, either by railway or steamboat.

There is a copious supply of wood in the neighborhood, and the working of the ledge necessitates only a small outlay.

It is a true fissure vein, 3 feet wide, in a formation of chlorite.

Assay, $9 in silver and $20.67 in gold to the ton.

KETTLE RIVER DIVIDE MINE,

A free gold showing quartz ledge, is in process of development, and gives inducement to great hopes.

Assays from $78 to $960 in gold to the ton.

Of coal mines the Yale District has a few, amongst which the following are most noticeable:

Forks Nicola Coal Beds, Nicola Valley,

A. A. Green & Co.'s Mines, on North Cold Water, 45 miles from Spence's Bridge,

Kamloops Coal Co., 2½ miles south of Kamloops,

North Thompson River Mines, 40 miles north of Kamloops.

Several copper mines are going to be worked near Kamloops and Yale next spring, for instance:

King George Mine.

Kamloops Mine.

NEW LOCATIONS RECORDED DURING THE YEAR 1888.

On Salmon River, North Bend.

Boston, Victoria, Jumbo, Eureka, Vancouver, Conqueror, Mina, Ballarat, Golden Heap and Oxford.

On Siwash Creek, Yale:

Free Quartz, Peach, Gladstone, Lillie and Rob Roy.

At Yale:

Reevsbeck and Anderson.

At Spatsum, near Spence's Bridge:

Three hundred feet ledge, Jno. McIntyre, and three hundred feet ledge, Josh Butler; Spatsum, Cook's Ferry, Murray, French and Armatage.

At Hope:

Hope Bonanza King, Elderado, Pacific, Maple Leaf, Louise, Martha and Olympia.

EXTRACT FROM THE MINISTER OF MINES REPORT ON THE YALE DISTRICT FOR 1887.

KAMLOOPS DIVISION.

"KAMLOOPS, B. C., 24th, 1887.

"SIR:—I have the honor to forward my mining report for the Kamloops Divison of Yale District.

THE STUMP LAKE MINES.

"A new and enormously rich mining district. Thirty miles south of Kamloops, by a good wagon road, in the Nicola District, a number of claims have recently been located, between Stump and Nicola Lakes. The former lake is about seven miles long and one mile wide. It derives its name from the number of stumps projecting above the surface of the water, indicating that a forest once covered the ground which now forms the bed of the lake.

"The formation of this district is dorite, flanked in the east and in the west by granite ranges, and is similar to that of the richest silver mining districts in Mexico. Bukart, a mining expert, who lived many years in Mexico, classes this rock as dorite, but Bustamante, an authority of great weight, calls it syenite. It presents many of the characteristics of chlorite slate, and a blue agillaceous slate. In the Mexican mines this formation has been found to be the best feeder of the silver-bearing lodes, which have been worked for centuries, and yielded enormous fortunes. Messrs. Scott & Palmer, of Nicola, discovered valuable ore near Stump Lake some five years ago, and took up a number of claims. Very little development work was done for some time. A Mr. Winters became interested in this property; he worked for a few months on the claims, and then abandoned them in the fall of 1885. Mr. John Morrison, formerly of Montana, who was prospecting in the valley at this time, re-located the claims, and organized a company to prosecute the development. The company, known as the Nicola Milling and Mining Company, was composed of parties in Victoria, New Westminster and Nicola, with Mr. Morrison as manager; under his supervision work was carried out for two years at a cost of $12,000. Eight claims were taken up, and five shafts were sunk to a depth of from 20 to 50 feet, a number of leads were struck from two to five feet wide, containing gold, silver, copper and galena, all assaying from $40 to $80 per ton in gold and silver, besides copper and galena. This year the property was sold to the Nicola Mining Company, a strong syndicate of capitalists, of London, England, who are represented by Messrs. Wilson and Turner, of Victoria. This company took possession of the property in August last, and have been working from 14 to 20 men for the last three months; six shifts of men have been working day and night for some time, sinking shafts, building shaft houses, levelling dumps. They intend sinking four of the most promising shafts to a depth of 110 feet, and if the outlook is as encouraging at that level as it is at the present time, the work will be continued.

"During the past 12 months 200 claims in the district have been recorded in the Government Office, at Kamloops, many of them being taken up by residents of the neighborhood. The limited prospecting done has demonstrated the existence of over fifty ledges on Mineral Hill and Idaho Mountain, all of which carry more or less mineral. Mining men from California, Nevada, Idaho, Montana and Colorado, who examined the locations during the past season, have expressed their surprise at the large number of quartz veins highly mineralized near the surface, and have freely admitted that they never before were in a mining camp where, from the grass-roots down, there was such a prospect to rich mines. The majority of veins on Mineral Hill run almost due north and south with an easterly dip, but there are a dozen or more which have a northwest and southeast course, and several which run almost east and west, and intersect the north and south and the northwest and southeast ledges the whole forming a complete network of

mineralized veins. It is considered highly probable by experieneed miners that at a eertain depth some of these veins will come together and unite in large ore bodies, as have been the case in other mining eountries of somewhat similar charaeteristies.

THE LEADING MINING CLAIMS.

"The Nicola Mining Company have a number of claims on Mineral Hill, east of Stump Lake, prominent amongst which are the Joshua, a vein three feet wide; has two shafts, one being 30 feet deep, and the other 90 feet deep. These shafts will be run down to a depth of 120 feet. There are about 200 tons of good ore taken out at this claim, running from $40 to as high as $350, and averaging $100 per ton. The King William has four shafts, from 20 to 55 feet, with various cross-cuts on a vein about three feet wide, on which work is still being carried on. There are 100 tons of ore taken out, assaying from $35 to $250 per ton, and averaging about $70 per ton.

"The Gentle Annie has one shaft about 50 feet deep, which will be continued to a depth of 100 feet. The ledge is three feet wide, and there are about 15 tons of ore taken out, averaging from $20 to $50 per ton. This shaft is being sunk by contraet.

"The Tubal Cain is the most promising ledge in the district; has been prospected on three different ledges, and about 10 tons of ore taken out. A shaft has been sunk some 35 feet, and will be carried down 100 feet. The width of the ledge, which is very rich, is two feet; it averages about $150 per ton—one assay going about $400 per ton.

"The Schomberg has a ledge 4 feet wide, and a shaft has been sunk 36 feet. The ore is estimated at $50 to $60 per ton, but no assay has been made yet.

"The No Surrender is about a 10-inch ledge. There are some 20 tons of ore on the dump, assaying from $25 to $60 per ton. The character of the ore in the above shaft is grey copper, galena and sulphurets.

"Mr. Morrison, who has resigned his position as manager of the Nicola Mining Company, will be suceeeded by Mr. Wm. Craib, who has been manager of the British Columbia Mining Company, at Cariboo, for the past year. The Company have reeently secured three sections of land for grazing, timber and water purposes, with a view of erecting smelting and reduction works if prospects continue to reward the enterprise. A blacksmith's shop, cook-shop, storehouse, and a number of camps for the employees have been erected. The pay-roll of the company for October was $500, for November $2,000, and this month it is estimated $1,200 at least. Between $17,000 and $18,000 has been spent on this property, directly and indirectly, and it is estimated that there is at the present time about $20,000 worth of rock on the various dumps. In all of their claims ore was taken out from the surface; not more than six inches of exeavation was required in any ease to strike the ore veins.

"Shipments of ore have been sent to Idaho, San Francisco and Denver, but it is expected that next spring will warrant arrangements for treating the ore in the vicinity of the mines.

"The Star claim, adjoining Tubal Cain, and running parallel with it, is at present the deepest shaft on Mineral Hill. It is owned by Messrs. G. Henderson and W. D. Patterson. The shaft is down 110 feet on a three-foot ledge of good ore. Some drifting has been done at the bottom of the shaft, and prospects are most encouraging, the ledge holding out and increasing in body and value. The ore runs from $30 to $150 per ton. Work will be resumed on this property in the spring. The gangue of ore in the Star is porphyry and quartz, each forming a separate body, and may be called a dyke lode. The surrounding country rock is a metamorphic slate. Messrs. Kinstall & Co., of San Francisco, who have worked the ore by various processes, state that, although it is of a refraetory character, it will not be difficult to treat. The breadth of ore body at the surface having a quartz gangue was two feet: at 100 feet in depth the quartz increases in breadth, forming an ore floor, and partially cutting out the porphyry; this floor shows mineral throughout the mass.

"The Planet claim, at the foot of Mineral Hill, is also owned by the above firm. The depth of the shaft is 35 feet; the ore on the dump is good, averaging $35 to $150 per ton, gold predominating.

"Messrs. Wright and Fletcher are the owners of several promising claims, among them are the Minnie, on Minnie Hill; the Eureka, on Rockford Hill; the Banner and Idaho, on Idaho Mountain. No great amount of sinking has been done upon any of these claims so far, but there has been enough work to show ore richly mineralized. There is every prospect of American capitalists, in conjunction with Messrs. Wright & Fletcher, pushing the development of their claims early next spring in a vigorous manner.

"The Hepburn group of mines, on Idaho Mountain, owned by Messrs. J. Hepburn, W. Wilson and R. Dunsmuir, of Victoria, gives promise of developing into a valuable property. Besides the work required by the Mineral Act, a shaft has been sunk 33 feet on the Robert Dunsmuir. The width of the ledge is two feet, and there are 12 tons of ore in sight, assaying from $65 to $800 per ton.

"The Mary Reynolds has two shafts, one 35 feet, and the other 90 feet; the latter will be sunk deeper. The width of the ledge is from four to six feet, and there are 70 tons of ore on hand, the lowest assaying $350, and the highest $900 per ton.

"Gold Cup shows a wide ledge opened up with a shaft 10 feet deep, the assay goes $90 per ton.

"The Giant is also a wide ledge, an 8-foot shaft, and about 12 tons of ore, assaying $200 per ton. The ore on Mineral Hill carries carbonates, galena, and black sulphurets of silver.

"Elk Horn, a 15-foot shaft, with a wide ledge, has 30 tons of ore in sight, assaying fairly.

"The King Hiram, one of the most promising claims in the claims on the hills, is tapped in three places, and assays from $30 to $80 per ton; the width of the vein is 26 inches. Mr. W. McCulloch, Drs. Jones and Dearden are the owners of a number of claims, called the Jenny Long, Longfellow, Dentist, Nellie Grant, and Last Chance. The Jenny Long is evidently a first-class claim, carrying telluride of gold, which assays into the thousands. There is also quite a pile of ore on the dump, which will average $80 per ton at least. Very little work has been done on the other locations as yet. The ore is composed of galena, sulphurets and blende in a quartz matrix, between walls of syenite.

"Messrs. Turner, Wm. and Joseph Wilson, have about 20 claims, besides their interest in the Nicola Mining Company.

"Messrs. W. Palmer and R. Scott, of Nicola, have five or six claims, on which have been sunk from 12 to 20 feet, with encouraging results.

.....

"I have, &c.,

(Signed) "WILLIAM DODD,

"*Mining Recorder.*

"*To the Honorable*

"*The Minister of Mines.*"

SIMILKAMEEN DIVISION.

GRANITE CITY, December 24th, 1887.

"SIR:—I have the honor.....

"Wm. Jensen, a reliable gentleman, whose long and varied experence in California and elsewhere, constitute him an excellent authority in mining matters, visited this place on his way to Rock Creek, whilst representing the interest of several prominent business men of Victoria and the Mainland, and spent two weeks on the upper Tulameen, above Bear Creek, examining the quartz ledges and benches which exist in the vicinity. At my request he embodied the result of his

investigations in a report, which I take the pleasure of forwarding for publication.

"As it contains all the information concerning some lodes discovered a few weeks before his arrival, it will not be necessary for me to comment upon a subject, the particulars of which he has supplied in his communication.

. . . . . .

"I have, &c.,

(Signed) "G. C. TUNSTALL,

"*Gold Commissioner.*

"*To the Honorable*

"*The Minister of Mines.*"

MR. JENSEN'S REPORT.

GRANITE CITY, September 21st, 1887.

"DEAR SIR:—In accordance with your request of even date, in regard to my impressions of the value and character of the quartz lodes and gravel deposits of this portion of British Columbia, I beg leave to make the following answer:—

"I arrived at Granite City on the 4th of the present month. The following day I started up the Tulameen River, a distance of twenty miles from this point, and on my way closely observed the formation of the country, and its possibilities, both in regard to quartz and gravel; and the following are the conclusions I have reached:—

"To prelude my remarks about the general character of the country, I beg your permission to describe partially a few of the claims met with on the way. I first visited the quartz locations made by Messrs. O'Donnell, Kelly, Buttermore, and others. These gentlemen are at present engaged in bench mining, and meeting with fair success; but as this class of mining has necessarily to stop for the season, on account of the near approach of winter, they have turned their attention to quartz, and this is the result of their efforts: Mr. O'Donnell and his associates have located a ledge, called the 'Hidden Treasure.' It is situated on the north bank of the Tulameen River, about 16 miles north and west of this place. The ledge is about 8 feet in width; it is enclosed in slate walls, and is, no doubt, from close observation, a true ledge. It is very free in gold; any part of the rock, broken up by the mere primitive method and washed in a common miner's pan, showing innumerable particles of gold. Rock has been sent from this location for assays, but returns had not been received at the time of my departure. My belief, however, is that it will reach $100 and over, in free gold.

"Extensions on this lode, called the Gold Hill, Evening Star, and one more, whose name now escapes me, have been made. They show the ledge cropping freely across the divide into Bear Creek, a tributary to the Tulameen. The croppings show similar rock to the Hidden Treasure. No work has as yet been done upon these extensions, but preparations are now being made to do so.

"About three-quarters of a mile south and east from the above ledge, and up the Tulameen, another location has been made. It is owned by Mr. Buttermore, the locator, Mr. Jensen, of Victoria, and Mr. Fell, of the same city. Rock from this ledge, which is called the Bonanza Queen, has been sent to Victoria for assay, and has yielded the handsome return of $88 in gold and $12 silver per ton. Two hundred pounds of rock have also been sent to San Francisco for milling test; the returns have not yet reached here. I understand it is the intention of the owners to immediately begin the construction of a tunnel, near the base of the mountain, which will penetrate the ledge at a depth of 600 feet. This lode is between three and four feet in width, and very promising. It is also easily traceable across the divide to Bear Creek by its croppings, and has, as all the ledges here have, a general course of N. 21° W. to S. 21° E. The extensions of this ledge have also been located, under the name of the 'Star' and the 'Genesta,' upon both of which work will soon be commenced.

"Some two miles further up the river a location has also been made, named 'Union.' This ledge is owned by three parties, two of whom are residents here,

and one a gentleman residing in Victoria. It is a large ledge, being about 12 feet in width, and showing unmistakable evidences of being a rich mineral deposit. My opinion, however, is that silver predominates. A shaft is now being sunk on this ledge, to more fully prove its character. Upon the southeast bank of the Tulameen two other locations are made, one called the 'Albion.' The other is named the 'Cascades,' and is an extension of the former. They are both four feet in width on top, and carry a little free gold, and though not rich, it is my belief that by sinking on they will be found valuable properties. They are both owned in Victoria, and I understand that work will shortly be begun upon them.

"This is all that has yet been done in this vicinity in regard to quartz, though I understand that prospectors are now in the field looking for veins, and I have no doubt their labors will be well rewarded."

THE LILLOET DISTRICT

Lies on the west side of the Fraser above the mouth of the Thompson River. It extends for 100 miles along the Fraser, whose auriferous deposits have been worked for many years.

Clinton, the principal town, is an important station on the stage road from Yale to the mines further north.

GOLD STATISTICS FOR 1887.

	Value of Gold per ounce.	Estimated value of yield for the year.	Total Division.	Total District.
Bridge River Cayoosh Creek Bars and benches of Fraser River	$15 00 to 16 50	$106,000	$106,000	$106,000

THE BONANZA MINE

Is situated on Cayoosh Creek, about 11 miles from the town of Lilloet, in the Lillooet District.

The distance to the mine from Ashcroft, C. P. R., to Lilloet, via Marble Canyon wagon road, is 56 miles, via Clinton (good wagon road) 79 miles; from Lilloet to Seaton Lake (road) 2 miles; from lake to the mine estimated nine miles, per trail. From Lytton to Lilloet, per trail, 40 miles. It comprises 6 mineral claims of 1,500 feet each, in all 9,000 feet by 600 feet wide.

A shaft has been sunk on the line of No. 2 and 3 locations to a depth of 50 feet.

The bottom of shaft is in solid ore.

An open face has been cut in No. 1, or the lower location, 14 feet high by 14 feet wide, all in solid pay stuff. Many assays have been made, the average giving $51.88 gold per ton.

Specimen pieces have been taken off the ledge that would assay from $500 to $30,000 per ton, but the owners have avoided any assays made from rock that gold could be found in.

One milling test made by H. Kustle & Co., San Francisco, of rock from surface gave $48 per ton in free gold.

The ore is free milling, carrying a small percentage of sulphurets; one seem in the vein carries arsenic pyrites, and is assaying very high.

THE FOSTER GOLD MINING AND MILLING COMPANY.

Is located on the Big Slide, and bids fair to become one of the most prominent enterprises in the Lilloet Mining District.

The company possess powerful machinery, in addition to which a mill has been erected and a mining expert has been secured, who will start operations very shortly.

Owing to a number of difficulties experienced in separating the gold from the ore, little has been done during the season, but there is no doubt that with the

chlorinating process in full working order the result will come up to expectations about this rich concern.

Assays have given as much as $300 gold to the ton.

ALLINGHAMS MINE,

Situated on Mad River, a tributary of the North Thompson, brings forth rich gold as well as silver bearing ore, of which recent assays, made at Ottawa and other places, give ample proof.

THE DISCOVERY MINE,

Located on Cayoosh Creek, produces both quartz and free gold in slate.

The shaft has now reached a depth of 35 feet, and tests show excellent prospects at any point where the ore has been promiscuously taken.

Other claims in the vicinity are: on Mahood Lake, Deception Creek and Bridge Creek, and some mica ledges at Clearwater.

There is also a promising gold quartz ledge on the west side of the Fraser, opposite Pavilion Mountain.

Latest reports inform us that as many as 116 mineral claims have been registered during the year 1888 in the Lillooet District, besides 135 alluvial ones, and one may with safety reckon on a return of gold yielded during the last twelve months as being equal to the produce of 1887.

EXTRACT FROM THE REPORT OF THE MINISTER OF MINES ON THE LILLOET DISTRICT FOR 1887

"GOVERNMENT OFFICE, CLINTON, December 16th, 1887.

"SIR:—.....

QUARTZ.

"On the mica ledges at Clearwater and the auriferous ledges on Mahood Lake and Deception Creek no work has been done during the past season. On Mad River, a tributary of the North Thompson, a gold and silver-bearing ledge has been discovered by Mr. Allingham, and one claim recorded thereon. Assays of the ore of this ledge at Ottawa gave very good returns in both gold and silver.

FOSTER GOLD MINING AND MILLING COMPANY,

"Located on the Big Slide.—I regret that the very favorable expectations entertained last fall regarding this company have not so far been realized. Various obstacles to the chlorinating process required to separate the gold from the ore resulted last spring in shutting down the works and discharging the whole of the workmen. Up to the present nothing further has been done, the whole of the works and the costly plant of the company being now in charge of one watchman. Grave errors have been made by the management, notably in the construction of the road to the mine, the location of the buildings too near to the

high water mark of the river, and others of a minor nature, but it is sincerely to be hoped that the company will ere long see the way clear to going on with the work. If sulphuret ores, even of a low grade, can be worked on a paying basis in other lands I fail to see why they cannot be made to pay here.

"The result of the failure of this company to extract the gold from the sulphurets has, in this district at least, been most disastrous; prospectors will not touch anything that shews sulphurets, and, since the discovery of free gold-bearing quartz on Cayoosh Creek, have run to the other extreme, and will not look at anything unless shewing gold to the naked eye, or under the magnifier. The claims recorded on the extension of the Big Slide Ledge have all been abandoned, and, in fact, sulphuret ledges everywhere in the district.

"A gold-bearing ledge was discovered by Messrs. Gould and Ward on Cayoosh Creek, about 10 miles above its confluence with Seaton Lake Creek, early in September last, and six claims were then located. This ledge has been subject to violent upheavel, as fragments of it are found far from the line of ledge. It seems strange that, like the alluvial workings on Cayoosh Creek, this ledge, and others in the immediate neighborhood, should have remained so long undiscovered, as nearly any piece of the surface croppings shews free gold. The Chinese miners found some specimens in their claims below the line of ledge, notably one in the possession of Mr. Smith, valued between $70 and $80.

"Several assays and milling tests from different places on the ledge have been made in Victoria and San Francisco, the former shewing from $4 to $105, and the latter from $5 to $48 per ton.

"A shaft is being sunk on the Discovery claims, and at the present writing has reached a depth of 25 feet, the ore from the shaft at different points, tested by reducing to powder and washing, shewing excellent prospects at any point in the shaft. The ore in the ledge is composed of a yellow-tinged quartz, thickly interspersed with slate; both quartz and slate carrying free gold. A continuation of the Discovery ledge has been found, on the north side of Cayoosh Creek, and several claims located, on one of which a shaft will shortly be commenced. A supposed continuation of this ledge has also been discovered on Anderson Lake, and three locations recorded on it. From one of the latter an assay made in Victoria gave $17.50 per ton. The value of these ledges being established by thorough prospecting in the first instance, there should be no difficulty in inducing capital to take hold of them for practical working. They are naturally placed in excellent position for working either by tunnels or shafts, not difficult of access, and the motive water-power for driving machinery unsurpassed.

"Five mineral claims, said to be free gold-bearing, were located on a ledge on Big Bar Creek a short time ago, but at present I am not well enough acquainted with their nature to report on them.

I have, &c.,

(Signed) "F. Soues,

"*Gold Commissioner.*

"*To the Honorable*

"*The Minister of Mines.*"

THE CASSIAR DISTRICT

Occupies the north end of the Province, and is a rich and extensive mining region.

The winters are rigorous and the summer season short.

Peace River and other tributaries of the MacKenzie head in this region.

GOLD STATISTICS FOR 1887.

	Value of Gold per ounce.	Estimated vaule of yeild for the year.	Total Divisions.	Total District.
Laketon Division:				
Dease Creek	$15 00	$18,430		
Thibert Creek	16 00	10,000		
Desultory mining	.....	3,000		
			$31,430	
McDame Creek Division:				
McDame Creek	17 00	22,775		
Walker Creek	.....	1,000		
			23,775	
Skeena Division:				
Lorne Creek	16 50	3,795		
Bones Guleh	16 50	1,485		
			5,280	
				$60,485

THE SACRAMENTO MINE,

Situated at Kitimat at the head of the Douglas Channel.

Ledge is a true fissure vein.

Width of ledge: 5 feet, exposed for 500 feet.

Ledge runs northeast by southwest.

Assay gives $35 in silver and $11 in gold to the ton.

MILLBANK SOUND MINE,

Situated at Seaforth Channel, Millbank Sound, on the northwest coast of B. C., produces sulphurets of iron containing gold in good quantity.

Width of ledge: 9 feet.

Assays $40 to $600 per ton, working test.

An adit has been run in 50 feet.

There are further numerous locations of silver and gold ledges on the Skeena River, &c.

EXTRACT FROM THE REPORT OF THE MINISTER OF MINES ON THE CASSIAR DISTRICT FOR 1887.

STICKEEN DIVISION.

MR. CRIMP'S REPORT.

"LAKETON, CASSIAR, 15th October, 1887.

"SIR:—I have the honor herewith to transmit the Mining statisties of the Cassiar District for the current year, and for your further information submit the following report.

"The accompanying statisties will be found to show a deerease from last year, on account of the old claims being worked out and no new ones having been discovered.

"On Dease Creek there were two hill claims that did pretty well, the balanee did not pay wages. There were but few white miners on this ereek; most of the gold was taken out by Chinese, of whom there were about 40, working in the bed of the creek with wing-dams on ground that has been worked over several times before. No new discoveries having been made this year on this creek.

"On Thibert Creek there were a few white miners more than on Dease, but fewer Chinese. This creek, with the exeeption of a few hill claims, is nearly worked out, and some of the miners have left for good, and you will see by the returns that there is quite a falling off in the amount of gold from last year on this creek.

"McDame Creek has held its own; the amount of gold is a little over that of last year. Most of the miners are Chinese. One eompany, situated on the flats below the eanyon, took out $12,000. It is a large eompany working eighteen men. The other companies did not do very well. This creek is like the others, very near worked out. The yield of gold for the past season, as you will see by the statistics, has been $55,205, as near as I ean ascertain, whieh, I think, is pretty aecurate.

"Very little prospecting has been done this year, for the reason that few miners have the neeessary means, Donald McDonald, George Thompson, and O. Barry, spent most of the summer on the southwest branch of the Muddy River. They built a boat at Sylvester's Trading Post and aseended to its head, but did not discover anything that would pay.

"There were two miners worked on a bar 15 miles below the Post on the Muddy, and I hear did fairly well with roekers.

"The prospects for next year do not look encouraging, but I hope that some new discoveries will be made, for there is a considerable portion of this district that has not been prospeeted. The great drawback is that the seasons are so short and provisions are high; consequently there are not many miners that ean afford to prospect.

"There will be about twenty white miners and about seventy Chinese winter in the district. Provisions are plentiful, and at usual prices.

"I have, &e.,

(Signed) "J. L. CRIMP,

"*The Honorable* "*Gold Commissioner, Cassiar.*

"*The Minister of Mines.*"

SKEENA DIVISION.

MR. DEMPSTER'S REPORT.

"ABERDEEN, B. C., 20th October, 1887.

"SIR:—I have the honor to enclose statement of proceeds of this season's mining. I regret to have to report so small a yield, owing, in part, to the unfavorable season; water remaining high till late in July; with heavy rain and high water again on the 1st September, which made the season very short for those working in the bed of the creek.

"Hoping to be able to give you a more favorable report next season,

"I have, &c.,

(Signed) "W. H. DEMPSTER,

"*Collector.*

"*The Honorable,*

"*The Minister of Mines.*"

THE OMINECA DISTRICT,

Situated to the north of Cariboo, commencing at about 55°, northern lattitude, and extending into the unexplored regions of British Columbia, is not only rich in alluvial gold deposits, but lumps of free native silver have been found in the creeks tributary to Omineca, Mesilinca, Osilinca and Peace Rivers or the Trout and Tacla Lakes.

Also quartz lodes are well defined in the district on one or the other of the following creeks, while indications of the precious metals are everywhere: Lost, Manson, Slate, May, Germansen and Vital Creeks, and Kildare and Black Jack Gulches.

GOLD STATISTICS FOR 1887.

Value of gold per ounce, $16.00.

Estimated value of yield for the year, $13,000.

THE PACIFIC DISTRICT.

Under this name I will in brief add an enumeration of those metalliferous mines and claims which, being dispersed over the whole pacific slope of British Columbia and the adjoining islands, should by rights belong to a defined mineral district with a centrally located Mining Bureau at the Terminus of the C. P. R., Vancouver.

Mining on the coast is still in its infancy, in fact very little more has deen done than prospecting, and it is consequently difficult to offer anything but a summing up of existing mines and locations. Almost every precious metal or economic mineral is found in the Pacific District, as also a large quantity of garnets in mica schist.

GOLD.

SEAFORTH CHANNEL MINE.

This mine is situated on Millbank Sound at Seaforth Channel on the northwest coast of B. C.

Width of ledge 9 feet.

Sulphurets of iron carrying gold.

An adit has been run in 50 feet.

Assays $40 to $600 gold to the ton, working test.

OTHER GOLD LOCATIONS:

Fort Rupert, northeast of Vancouver Island.

Queen Charlotte Sound, W. Huson's ledges, assaying from $5 to $120 gold to the ton

Salt Spring Island, A. Koch's claims, assaying $8 gold and $3 silver per ton.

Salt Spring Island, Brethour's claims, with a ledge of eight feet width and no wall apparent yet.

Goldstream, Vancouver Island.

Texada Island, Surprise claim.

" Tip-Top "

Thurlow Island, W. Gillies' claim.

SILVER.

HEBREW MINE,

Situated on the northwest coast of B. C., on the Bella-Bella River, about 400 miles from Vancouver.

Width of ledge 9 feet.

Tunnel of 50 feet.

Assays $40 to $80 silver to the ton.

STERLING SILVER MINING COMPANY,

Located on the Kokasilah River, Saanich Arm, Cowichan District, Vancouver Island.

Depth of shaft 50 feet.

Width of ledge 8 feet.
Defined walls of limestone, quartz, &c.
Assays $32 gold and $23 silver to the ton.

SEYMOUR CREEK MINE,

On Burrard Inlet, opposite Vancouver, 2½ miles up the creek, and very easily accessible.

Depth of shaft between 30 and 40 feet.
Seam from wall to wall at top 10 feet.
Assays of ore taken at 25 feet $8 gold and $10.25 silver to the ton.
Latest assay in San Francisco of ore at 35 feet, $53.75 silver per ton.

ARGYLE SILVER MINE,

Owned by Messrs. McLean and Moore, situated on Howe Sound, near Vancover.

Width of ledge 18 inches.
Depth 50 feet, will be sunk further.
Trend, northeast by southwest, and is pretty nearly perpendicular.
Country rock, slate.
A rich vein of bismuth silver.

THE LOTTIE MINE,

The property of John Rainey, on the North Arm of Burrard Inlet, is situated only 12 miles from the City of Vancouver and quite handy to the smelter.

Width of vein 30 feet.
Trend, northeast by southwest, and stands perpendicular.
Assay of surface rock, $3 gold and $9.37 silver to the ton, but the ore is sure to turn out much richer.

NO SURRENDER MINE,

Situated close to the Lottie Mine, on the North Arm of Burrard Inlet, 11 miles from Vancouver; belongs to the same owner, and promises well.

Width of vein 30 feet.
Trend, northeast to southwest, and dips slightly to the northwest.
Mine is on the side of a mountain.
Assays from surface, $10.95 gold and $2.45 silver to the ton; it is expected that the deeper the shaft is being sunk, the richer the percentage of silver to gold will become.

VANCOUVER SILVER MINE,

Situated on Burrard Inlet, 13 miles by water from the city, on a range of mountains running to the north, will be developed in the spring. It contains mainly rich grey silver.

Assays $20 silver to the ton.

OTHER SILVER LOCATIONS:

Heywood Mine, Prince of Wales Island.
Silver Queen, Texada Island.
Union Jack, "
Cowichan Bay, Vancouver Island.

COPPER.

HOWE SOUND COPPER MINE,

Is situated on Burrard Inlet, a few miles from the City of Vancouver, and pro-

duces very rich copper; it will be vigorously worked now that the Vancouver Smelter is approaching completion.

Assays .59 per cent. copper and $87 silver to the ton.

OTHER COPPER LOCATIONS:

Dean's Channel, Northwest Coast of British Columbia.
Copper King, Texada Island.
Eliza Jane, "
Sooke Copper Mine, Sooke, Vancouver Island.
Beechy Bay, Vancouver Island, (Garibaldi Copper.)
Spring Ridge, "

IRON.

TEXADA ISLAND IRON MINE

Is situated near Vancouver on Texada Island at 3½ chains from tide water on a fine harbor, and is virtually a mountain of ore, very favorable for working.

Walls of limestone.

Assays average 64 per cent. iron, no sulphur.

KILDELLA RIVER IRON MINE,

Located on Rivers Inlet, at Queen Charlotte Sound, Northwest Coast of B. C., produces Magnetic Oxide of Iron.

Assays 65 2-10 per cent. of iron.

THE SOOKE IRON MINE,

Situated on a hill 3 miles east of Sooke Harbor, about 20 miles from Victoria, V. I., produces magnificent hematite iron ore of extraordinary purity and richness; 74 per cent. The hill mainly composed of crystalized hornblende, upwards of 200 feet high and ¼ mile wide, is traversed throughout its length by numerous contemporaneous veins and segregations of very fine magnetite, varying from an inch to several feet in thickness.

COAL.

LOCATIONS:

Vancouver Coal Mining and Land Co., Nanaimo, V. I.
Wellington Coal Mines, Departure Bay, near Nanaimo, V. I.
South Wellington Collieries, near Nanaimo, V. I.
East " " " "
Union Coal Mines, Comox, V. I.
Anthracite Coal Beds on Queen Charlotte Island, near Skidegate Inlet.
Robertson's Coal Mine on Queen Charlotte Sound.
Salt Spring Island Coal Mine,
and
Under the townsite of the City of Vancouver and its vicinity.

APPENDIX A.

SYNOPSIS OF MINERAL ACT, 1884, AND AMENDMENTS, BRITISH COLUMBIA.

1. Every person engaged in mining for minerals (other than coal) shall take out a free miner's certificate.

2. Every person over 16 years of age shall be entitled to hold a claim, if a free miner, and shall, as regards such claim and liabilities contracted in connection therewith, be treated as an adult.

3. Every free miner shall during the continuance of his certificate, have the right to enter and mine upon any waste lands of the Crown not for the time being lawfully occupied by any other person, and may also enter on timber lands and cut timber for mining purposes.

4. In case of dispute as to occupancy the matter is to be settled by a Gold Commissioner or Court, with or without a jury of five, but no person shall be recognized as having any right or interest in a mineral claim unless at the time the dispute arose he was a free miner.

5. Any incorporated company of B. C. may, in its corporate name, take out a free miner's certificate.

6. Mining companies incorporated in a foreign country, and duly registered in British Columbia, shall have the rights of a free miner.

7. A free miner's certificate may be granted for one or three years upon payment therefor of five dollars for one, or fifteen dollars for three years. It shall have but one name and shall not be transferable.

8. Free miner's certificates shall be granted by a Gold Commissioner or a Mining Recorder. Mining Recorders shall be appointed to issue such certificates and record mining claims.

9. No person shall be entitled to receive any wages for work in a mine if not a free miner.

10. Every free miner locating a mineral claim must, if within 10 miles, record same with Gold Commissioner or Mining Recorder within three days of location. One day additional is allowed for every 10 miles, or fractional part thereof, such location is distant from the place of record. If no Commissioner or Recorder be in the locality, the miners of such locality may, by a two-thirds vote of their number at a meeting, appoint a person to issue free miner's certificates and record mining property.

11. Any free miner who has duly located and recorded a mineral claim shall be entitled to hold same for one year from recording, provided within six months from recording he shall have expended on same money or labor to amount or value of $100, and furnish proof of expenditure to Gold Commissioner and obtain a certificate from him of such expenditure. If such certificate is not obtained and recorded the claim shall be deemed vacant and abandoned. Such free miner shall in each succeeding year be entitled to hold same for one year from date of re-recording if he shall prove an expenditure in money or labor of $100 within 6 months from date of re-recording, and has obtained a certificate that he has expended that sum from the Gold Commissioner. Proof, upon oath, of expenditure is to be given. If certificate is not obtained in each year claim is deemed vacant or abandoned. A certificate of expenditure is not necessary where claim is continuously worked.

12. Claims may be transferred by writing only, signed by transferer or by his agent, duly authorized in writing. Such transfer must be recorded.

13. Every free miner shall be entitled to hold two claims by pre-emption and any number of claims by purchase.

14. Mineral claims which includes all minerals, except coal, may be acquired by any free miner. Such claims shall be in the form of a parallelogram, as nearly as may be, 1500 × 600 feet. The boundary lines shall be marked by posts, trees, or stumps, on which shall be a legible notice in writing, stating name (if any) of claim, its length in feet, width, date of notice, and name of claimant. Claims must follow vertical planes of their boundaries.

15. When two or more veins cross or intersect each other, priority of location shall govern, and the prior location shall be entitled to all ore or mineral contained within the space of intersection, but subsequent locator shall have right of way for working his mine. If two or more veins unite the oldest, or prior location, shall take the vein below point of union.

16. When a tunnel is run to develop a claim or lode, the owner of tunnel shall have the right to all veins or lodes discovered in such tunnel, if the ground containing such veins or lodes be marked as a claim within three days and duly recorded, and provided also that such vein or lode is not included in any existing claim.

17. Any lawful owner of a mineral claim shall be entitled to a Crown Grant for same on showing title and that he has expended $500 upon same. Such grant shall transfer to claimant the right to all minerals, precious or base (excepting coal) in, upon, or under the land. Notice of application for such Crown Grant must be advertised for 60 days, and any adverse claims thereto are to be decided by the Gold Commissioner, Assistant Gold Commissioner, or Judge of a Court having jurisdiction in mining claims.

18. Any lawful holder of a claim shall be deemed entitled to a Crown Grant for same on paying $75 per acre therefor in lieu of expenditure.

19. Every free miner shall be entitled to a printed copy of Mineral Act on application to Gold Commissioner of district.

20. The Lieutenant-Governor in Council may grant a bonus of a sum not exceeding $12,000 to a company which shall erect a quartz mill or smelting works, or both combined, capable of treating properly 20 tons of ore per day; such bonus to be paid when 2,400 tons of ore are so treated or reduced. Only 25 per cent. of sum expended on works to be given by way of such bonus.

Sums not exceeding $12,000 may also be given by the Lieutenant-Governor in Council for the erection and maintenance of crushing, chlorinating and smelting works.

APPENDIX B.

Synopsis of regulations for the disposal of Dominion Lands containing minerals other than coal.

Approved by Order-in-Council dated October 5th, 1887, under R. S. Can., Cap. 54, Sec. 47.

SECTION 1. Regulations are applicable to all Dominion lands containing gold, silver, cinnabar, lead, tin, copper, petrolum, or other mineral deposit of economic value.

SEC. 2. Any person or persons may explore vacant Dominion Lands, not appropriated or reserved, either by surface or subterranean prospecting, with a view to obtain a mining location for same. No running location is to be granted until actual discovery of the vein lode or deposit of mineral or metal within same.

SEC. 3. The length of location not to exceed 1,500 feet, its breadth not more than 600 feet. The boundaries shall be four parallel straight lines, unless prior locations prevent it, when location may be of such shape as Superintendent of Mines may approve of. The boundaries beneath the surface shall be the vertical planes in which the boundaries lie.

SEC. 4. The location shall be marked by four wooden posts, one at each corner. In rocky ground, where posts cannot be driven, a pile of stones to support posts is to be erected. In timbered lands the boundary lines are to be blazed. Name in full of location shall be cut or written with colored chalk on each post with date of marking. Posts to be numbered 1, 2, 3 and 4, with the letters "M. L." (mining location) on each post. Where corner of location falls in an inaccessible location witness posts, on which shall be cut or written the letters "W. P.," instead of "M. L.," shall be erected near the corner of the location and indicating where such corner is.

(*a*) Within 60 days after such marking a declaration, under oath, in a prescribed form, shall be filed with the Agent of the Dominion Lands Office of the District, setting forth circumstances of discovery, location, and its dimensions, and pay to such agent five dollars.

(*b*) The agent shall give a receipt to such applicant, which shall authorize him, his representatives or assignees, to enter into possession of location and, by renewing from year to year, retain same for five years. At the end of each year the locatee shall furnish proof that he has during the year expended at least $100 on his location, and on payment of $5 shall obtain a renewal for one year.

(*c*) Any party of miners, not exceeding four, whose claims adjoin, and each of which claims has been entered within three months of the other, may, for the better development of these claims, and with the consent of the said agent, for the 1st and 2nd years after entry, expend upon any one of their respective claims the sum which is directed to be spent on each.

SEC. 5. Before expiration of said five years from date of entry a locator, on proof that he has expended not less than $500 on his claim, and complied with the regulations, may purchase same.

SEC. 6. The price shall be $5 an acre, cash.

SEC. 7. Fifty dollars, to cover costs of survey, shall be paid by applicant. Patent shall issue when plan and field notes are ready.

SEC. 8. If claimant, or his legal representatives, fail to prove each year that he has made the required expenditure on his location, or should not apply to pur-

chase within five years from entry, the location shall revert to the Crown. Locations in surveyed townships shall conform to such surveys and be subdivisions thereof. In townships with only one boundary surveyed, the applicant may conform with these regulations regarding locations.

SEC. 9. In case of rival claims to location the right to acquire shall be in him who can prove he was first to discover and take possession by staking as aforesaid.

SEC. 10. Priority of discovery without taking the steps set out in the regulations shall not take precedence of a subsequent bona fide discoverer of same location, who has perfected his discovery as directed. A person fraudulently making use of the prior discovery of another shall not benefit by first filing his claim.

SEC. 11. Only one location on the same lode or vein shall be granted to an individual claimant.

SEC. 12. Five acres for mills or reduction works, incidental to mining operations, may be patented and paid for at same rate as mining locations.

SEC. 13. Locations of 160 acres for mining iron or petroleum, bounded by north and south and east and west lines of equal length, may be granted by the Minister of the District. If location proves to have mineral deposits other than iron or petroleum, the right of locator shall be restricted to the limits of a mineral location only, and the remainder of such 160 acres revert to the Crown.

SEC. 14. If there be two or more applicants for a mining location, none of whom is the original discoverer, or his assignee, the Minister of the Interior, if he sees fit to dispose of same, shall do so by tender or auction.

SEC. 15. A locator may assign the right to purchase in manner prescribed.

SEC. 16. The assignee of a duly registered claim may purchase at the same price and on the same terms as the locatee could have done.

MINERAL REFEREES.

Mayor. D. Oppenheimer	Vancouver.
Messrs. Ross & Ceperley	"
Bank of British Columbia (J. C. Keith, Esq., Manager)	"
The Rand Drill Company	"
Messrs. W. L. Leonard & Co.	"
B. C. Smelting Company	"
Messrs. Findlay & Co.	"
Vancouver Foundry and Iron Works	"
F. C. Cotton, Esq., Editor "News-Advertiser"	"
Bell-Irving & Paterson	"
Vancouver Board of Trade	"
Dr. W. Bredemeyer, Mining Engineer and Assayer	"
Dr. Paul Herbing, Analytical Chemist	"

ROSS & CEPERLEY,

FINANCIAL & MINING

AGENTS.

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Advances Secured for the Development of Mining Properties

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LIMITED.

VANCOUVER, B. C.

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—CAMMERON—

MINING PUMPS,

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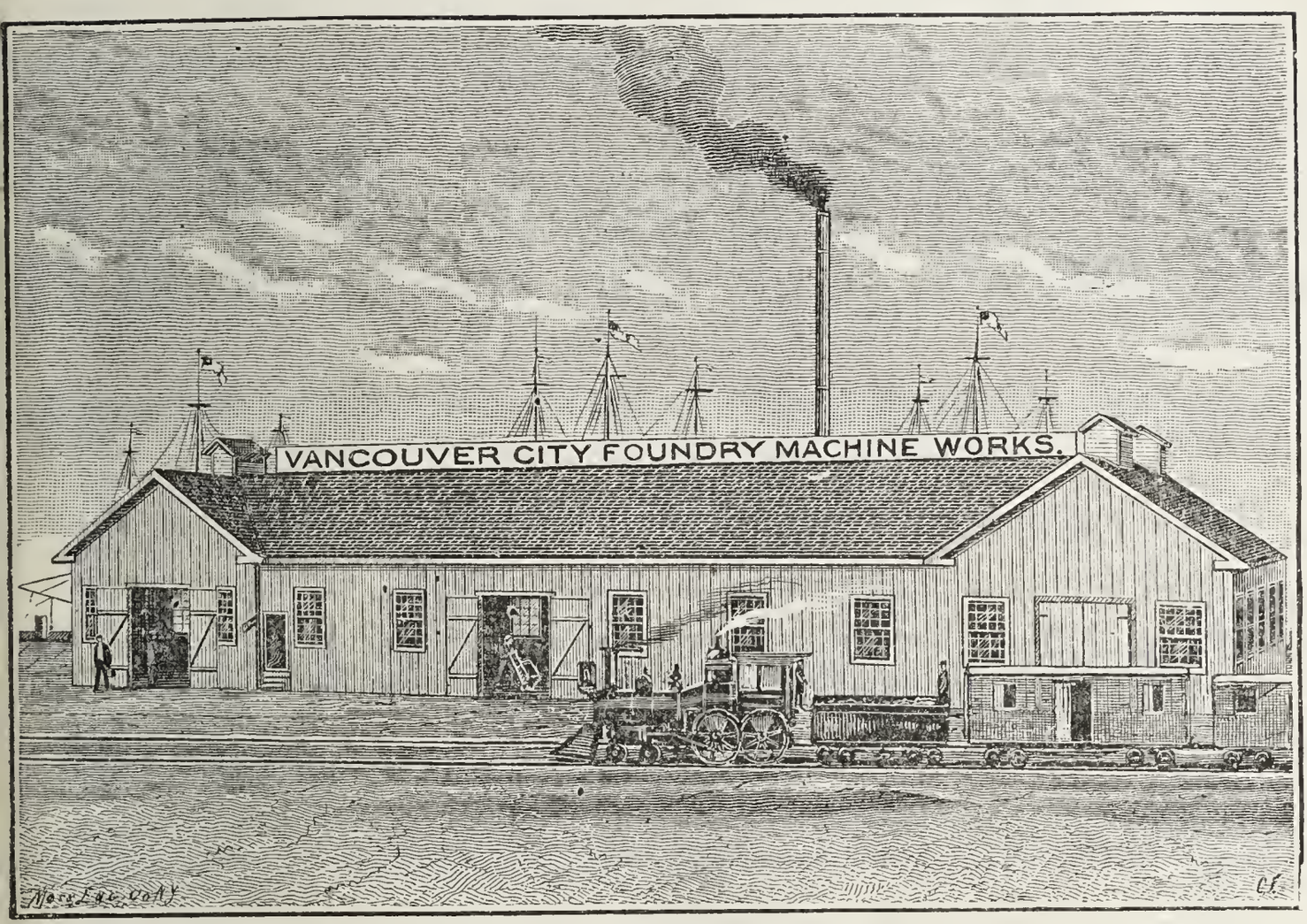

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D. OPPENHEIMER,
Mayor.

Mayor's Office, City Hall,
Vancouver, December, 1888.